Zootaxa 5747 (1): 001–077
https://www.mapress.com/zt/

Monograph

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

https://doi.org/10.11646/zootaxa.5747.1.1
http://zoobank.org/urn:lsid:zoobank.org:pub:157A0273-6041-4645-8FDC-A31D4C230025

ZOOTAXA

5747

An updated checklist of the wild bees of Morocco (Hymenoptera: Anthophila)

AHLAM SENTIL[1,2,11*], GUILLAUME GHISBAIN[1,12], THOMAS J. WOOD[3], PETR BOGUSCH[4], ACHIK DORCHIN[1,13], SIMONE FLAMINIO[1,14], MAX KASPAREK[5], MICHAEL KUHLMANN[6], JESSICA LITMAN[7], DENIS MICHEZ[1,15], ANDREAS MÜLLER[8], PIERRE RASMONT[1,16], PAOLO ROSA[1,17], ABDELMALEK BOUTALEB JOUTEI[2], MARCO SELIS[9], JAKUB STRAKA[10] & PATRICK LHOMME[1,18]

See full affliations on page 3

Magnolia Press
Auckland, New Zealand

Accepted by Y. Danilov: 11 Nov. 2025; published: 9 Jan. 2026

AHLAM SENTIL, GUILLAUME GHISBAIN, THOMAS J. WOOD, PETR BOGUSCH, ACHIK DORCHIN, SIMONE FLAMINIO, MAX KASPAREK, MICHAEL KUHLMANN, JESSICA LITMAN, DENIS MICHEZ, ANDREAS MÜLLER, PIERRE RASMONT, PAOLO ROSA, ABDELMALEK BOUTALEB JOUTEI, MARCO SELIS, JAKUB STRAKA & PATRICK LHOMME

An updated checklist of the wild bees of Morocco (Hymenoptera: Anthophila)

(*Zootaxa* 5747)

77 pp.; 30 cm.

9 Jan. 2026

ISBN 978-1-77973-565-2 (paperback)

ISBN 978-1-77973-566-9 (Online edition)

FIRST PUBLISHED IN 2026 BY

Magnolia Press

P.O. Box 41-383

Auckland 1041

New Zealand

e-mail: magnolia@mapress.com

https://www.mapress.com/zt

ISSN 1175-5326 (Print edition)

ISSN 1175-5334 (Online edition)

AHLAM SENTIL[1,2,11*], GUILLAUME GHISBAIN[1,12], THOMAS J. WOOD[3], PETR BOGUSCH[4], ACHIK DORCHIN[1,13], SIMONE FLAMINIO[1,14], MAX KASPAREK[5], MICHAEL KUHLMANN[6], JESSICA LITMAN[7], DENIS MICHEZ[1,15], ANDREAS MÜLLER[8], PIERRE RASMONT[1,16], PAOLO ROSA[1,17], ABDELMALEK BOUTALEB JOUTEI[2], MARCO SELIS[9], JAKUB STRAKA[10] & PATRICK LHOMME[1,18]

[1]*Laboratory of Zoology, Research Institute for Biosciences, University of Mons, Place du parc 20, 7000, Mons, Belgium*

[2]*Department of Plant Protection and Environment, Ecole Nationale d'Agriculture, Km10, Route Haj Kaddour, BP S/40, Meknès 50001, Maroc*

boutaleb@enameknes.ac.ma; https://orcid.org/0000-0001-9033-1775

[3]*Naturalis Biodiversity Center, Darwinweg 2, 2333 CR, Leiden, the Netherlands*

thomas.wood@naturalis.nl; https://orcid.org/0000-0001-5653-224X

[4]*Department of Biology, Faculty of Science, University of Hradec Králové, Hradec Králové, Czech Republic*

bogusch.petr@gmail.com; https://orcid.org/0000-0002-4554-6141

[5]*Mönchhofstr. 16, nigrif69120 Heidelberg, Germany*

kasparek@t-online.de; https://orcid.org/0000-0002-5604-6791

[6]*Zoological Museum, University of Kiel, Hegewischstr. 3, 24105 Kiel, Germany*

mkuhlmann@zoolmuseum.uni-kiel.de; https://orcid.org/0000-0003-3664-6922

[7]*Natural History Museum of Neuchâtel, Terreaux 14, 2000 Neuchâtel, Switzerland*

jessica.litman@ne.ch; https://orcid.org/0000-0003-2481-5709

[8]*ETH Zürich, Institute of Agricultural Sciences, Biocommunication and Entomology, Schmelzbergstrasse 9/LFO, 8092 Zürich, Switzerland*

andreas.mueller@naturumweltwissen.ch; https://orcid.org/0000-0002-8322-1292

[9]*Via dei Tarquini 22, 01100 Viterbo, Italy*

marcozetsu@hotmail.it; https://orcid.org/0000-0002-8200-9441

[10]*Department of Zoology, Faculty of Science, Charles University, Viničná 7, CZ-12844 Prague, Czech Republic*

straka.jakub.1@gmail.com; https://orcid.org/0000-0002-8987-1245

[11] *ahlam.sentil@umons.ac.be; https://orcid.org/0000-0001-7118-428X*

[12] *guillaume.ghisbain@umons.ac.be; https://orcid.org/0000-0003-2032-8081*

[13]*Department of Biology – Invertebrates, Royal Museum for Central Africa, Leuvensesteenweg 13, B-3080 Tervuren, Belgium*

achik.dorchin@umons.ac.be; https://orcid.org/0000-0003-1151-5926

[14] *simone.flaminio@umons.ac.be; https://orcid.org/0000-0002-5823-1202*

[15] *denis.michez@umons.ac.be; https://orcid.org/0000-0001-8880-1838*

[16] *pierre.rasmont@umons.ac.be; https://orcid.org/0000-0003-0891-2189*

[17] *paolo.rosa@umons.ac.be; https://orcid.org/0000-0003-2919-5297*

[18] *patrick.lhomme@umons.ac.be; https://orcid.org/0000-0001-6735-9104*

**Corresponding author*

Table of Contents

Abstract

Morocco, encompassing both Mediterranean and Saharan regions, is recognized as a biodiversity hotspot, hosting a rich fauna of wild bees. While taxonomic research on Moroccan bees has accelerated in recent years, an update was needed to provide a more complete taxonomic foundation. Here, we present an updated checklist of Moroccan wild bees since the first complete checklist published in 2020. This work summarises and proposes a total of 143 changes to the previous checklist, which correspond to 14.8% of taxa compared to the first checklist: two new genera for the country (*Schmiedeknechtia* and *Aglaoapis*), 36 species recently described as new to science, 37 species recently recorded in Morocco, and 16 species newly reported here for the country. We further document 18 published synonymies, 33 taxonomic acts and clarifications, and provide records for 28 species previously lacking precise data. We also exclude 14 species from the previous checklist and 25 names based on published synonymies and taxonomic acts and clarifications. This update brings the total to 1,043 wild bee species belonging to six families and 70 genera, compared to 961 species in the 2020 checklist, with 10% (108 species) currently considered as endemic to Morocco. This first update, resulting from a collaborative effort among experts, strengthens the taxonomic framework required to advance research on wild bee diversity, endemism, and conservation in Morocco.

Key words: Pollinators, taxonomy, synonymy, conservation, endemism

Introduction

Bees (Hymenoptera: Anthophila) are among the most significant groups of pollinators, playing a vital role in maintaining ecosystem health and agricultural productivity worldwide (Matias *et al.* 2017; Potts *et al.* 2016). With over 20,900 currently recognized species globally (Ascher & Pickering 2025), bees exhibit remarkable diversity, occupying a wide range of habitats. Morocco encompasses a wide range of ecosystems, from Mediterranean woodlands in the north to arid regions in the southeast, making it a biodiversity hotspot with a rich assemblage of bee species adapted to its diverse ecosystems (Lhomme *et al.* 2020; El Abdouni *et al.* 2022). Morocco lies at the biogeographic crossroads of the western Mediterranean, the Atlantic façade and the northern fringe of the Sahara. Its strong altitudinal gradient, mosaic of Mediterranean, Atlantic, montane and desert climates, and exceptionally diverse flora (> 4 200 vascular plant taxa, Rankou *et al.* 2013) together sustain one of the richest wild-bee faunas in the Mediterranean Basin. The first comprehensive checklist of Moroccan bees documented the presence of 961 species (Lhomme *et al.* 2020). This total exceeds the figures so far compiled for neighbouring North-African countries and rivals those of the Mediterranean hotspots of Greece, Spain and Italy (Ascher & Pickering 2025). The Moroccan fauna combines a large Iberian-Maghrebian element with a limited Saharo-Sahelian component, underlining Morocco's position as a natural "bridge" between Europe and Africa.

Research on Morocco's bee fauna began with Dusmet y Alonso (1915). A first wave of collecting followed between the late 1920s and 1960s, led by entomologist Raymond Benoist (1927; 1928; 1930; 1937; 1941; 1950; 1957; 1961) along with important contributions from Theodore Dru Allison Cockerell (1931; 1937; 1938) and Anton von Schulthess-Rechberg (1924). Their combined efforts brought the number of recorded species to around 600 by the mid-20th century. Research then slowed for several decades, with only occasional revisions of specific bee genera (e.g. Ebmer 1976, 1985). A second wave of important collecting and taxonomic studies began in the 21st century, mostly in the last 10 years. However large parts of Morocco remain under-sampled, especially the Rif, eastern Anti-Atlas, and pre-Saharan lowlands. This knowledge gap is especially critical given the global decline in bee species richness (Nieto *et al.* 2014; Ghisbain *et al.* 2024, 2025; Gekière *et al.* 2025), making it more pressing than ever to document Morocco's bee diversity.

While the work of Lhomme *et al.* 2020 laid a foundation for understanding the region's bee diversity, recent biodiversity surveys and taxonomic advances have uncovered several new species for science and new records for Morocco (e.g. Wood *et al.* 2020; Radchenko *et al.* 2022). These findings call for an updated checklist that captures the current state of knowledge.

This study presents an updated checklist of the bees of Morocco, incorporating recent discoveries and advances in bee taxonomy including two genera newly recorded for the country (*Schmiedeknechtia* and *Aglaoapis*), 36 species recently described as new to science, 37 species newly recorded in Morocco and 16 species reported here for the first time. This collaborative work provides an important resource for further biodiversity assessments, conservation planning, and ecological studies in Morocco and, more broadly, in North Africa.

Materials and methods

Taxonomic update

Taxonomic updates for this amendment were compiled through (i) an exhaustive review of the literature published after the publication of the Moroccan checklist of bees (by Lhomme *et al.* 2020), and (ii) the availability of new unpublished information provided here by the authors. This revision only includes taxonomic data that have been verified by expert bee taxonomists.

Geographical scope of the study

The geographical scope of this study is the territory of Morocco including Western Sahara, as considered in the original checklist of the country (Lhomme *et al.* 2020).

Structure of this update

This update follows the structure of Ghisbain & Rosa *et al.* (2023, in press) for the checklist of the European wild bee fauna and its first amendment. The species considered in this revision are ordered by family and tribe presented in alphabetical order, and listed alphabetically within the following sections:

- Species recently described as new to science (i.e. species described as new after the publication of the 2020 Moroccan checklist);
- Species newly recorded in Morocco since 2020 (species that were first reported from Morocco in publications that came out after the last checklist of Lhomme *et al.* 2020);
- New species for Morocco (species that are newly reported from Morocco for the first time in the present checklist);
- Published synonymies (i.e. synonymies published after the publication of the 2020 Moroccan checklist);
- Taxonomic acts and clarifications (i.e. taxonomic acts and clarifications of interesting cases such as new combinations, taxa upgraded to species rank or downgraded to subspecies rank);
- Corrections (i.e. annotated corrections of errors found after publication of the 2020 Moroccan checklist).
- Species removed from the Moroccan checklist;
- Species lacking previously published records (i.e. species reported in Lhomme *et al.* 2020 yet without formally published occurrence records; we provide them here for the first time.).

For each species, full name (including subgenus when available) is given first followed by information about Moroccan type material, when applicable, global and regional records, and bibliographic references for each species. Countries marked with an asterisk (*) are new records provided herein.

Acronyms used for museums and private collections

ADC: Personal collection of Achik Dorchin, Mons, Belgium.
ASC: Personal collection of Ayyoub Skaou, Marrakech, Morocco.
ASEC: Personal collection of Ahlam Sentil, Meknès, Morocco.
CMK: Personal collection of Max Kasparek, Heidelberg, Germany.
CSE: Personal collection of Christian Schmid-Egger, Berlin, Germany.
DBC: Personal collection of Daniel Benda, Prague, Czech Republic.
ETHZ: Swiss Federal Institute of Technology, Zurich, Switzerland.
JSPC: Personal collection of Jakub Straka, Prague, Czech Republic.
MCAT: Museum of Central Africa, Tervueren, Belgium.
MSNG: Museo civico di storia naturale di Genova, Genoa, Italy.
MSVI: Personal collection of Marco Selis, Viterbo, Italy.
NHMUK: The Natural History Museum, London, United Kingdom.

NMPC: National Museum of Natural History, Prague, Czech Republic.
OUMNH: Oxford University Museum of Natural History, Oxford, UK.
OÖLM: Biodiversity Center Upper Austria, Linz, Austria.
RMNH: Naturalis Biodiversity Center, CentreLeiden, the Netherlands.
TJWC: Personal collection of Thomas James Wood, Leiden, the Netherlands.
UMONS: Collection of the Laboratory of Zoology, University of Mons, Belgium.
VLC: Personal collection of Vincent Leclercq, Aix-en-Provence, France.
WHLC: Personal collection of Wolf-Harald Liebig, Bad Muskau, Germany.

Results

Distribution of Moroccan bees

Species counts vary significantly across regions (Figure 1A). The highest levels of species richness are found in Marrakesh-Safi (568 species), Fès-Meknès (490 species), Souss-Massa (460 species), and Drâa-Tafilalet (447 species), all regions bordered by the Atlas Mountain ranges (including the Middle, High, and Anti-Atlas). In contrast, regions with the lowest bee species numbers tend to be either semi-arid zones dominated by cereal farming, such as Casablanca-Settat (138 species), or arid desert areas with limited water and floral resources, like Laâyoune-Sakia El Hamra (31 species) and Dakhla-Oued Ed-Dahab (13 species). However, these differences in species richness probably also reflect uneven sampling effort and accessibility more than actual biodiversity. A similar trend is observed in the distribution of endemic species (Figure 1B). The regions with the highest numbers of recorded endemic bees, Souss-Massa (47 species), Marrakesh-Safi (45 species), and Drâa-Tafilalet (41 species) are all located along the Atlas Mountain chain, confirming the role of this mountain system as a biodiversity hotspot and a center of endemism within Morocco.

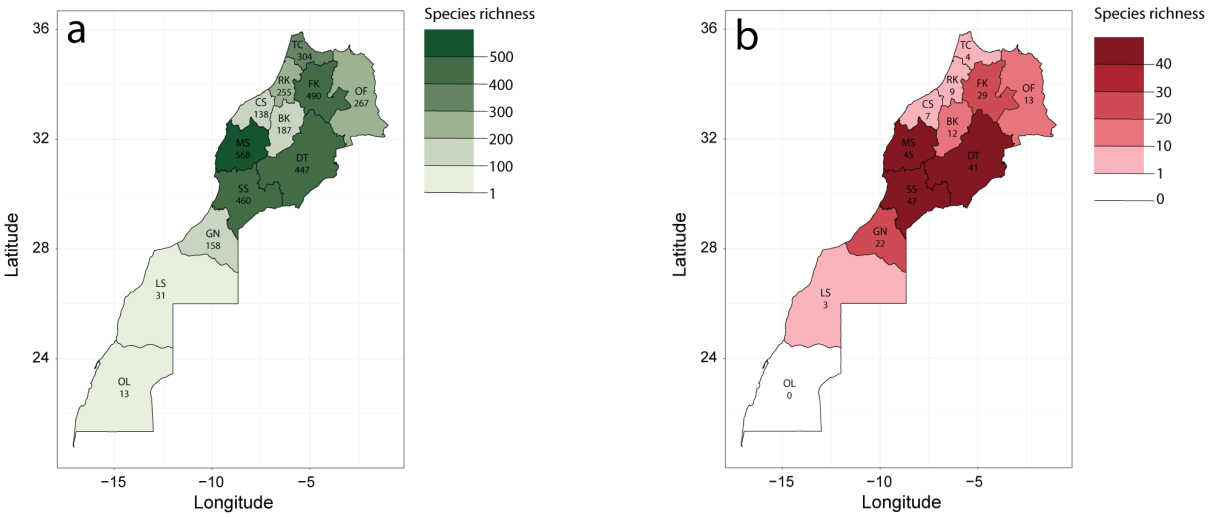

FIGURE 1. Maps of Morocco showing regions colored by their known (a) bee species richness and (b) endemic bee species richness (Abbreviations, TC: Tanger-Tetouan-Al Hoceima region; OF: Oriental region: FK: Fès-Meknès region; rk: Rabat- Salé-Kénitra region; BK: Béni Mellal-Khénifra region; CS: Casablanca-Settat region; MS: Marrakesh-Safi region; DT: Drâa-Tafilalet region; SS: Souss-Massa region; GN: Guelmim-Oued Noun region; LS: Laâyoune-Sakia El Hamra region; OL: Dakhla-Oued Ed-Dahab region). These maps were produced based on the records and information from the present work

Taxonomic revision

Family ANDRENIDAE Latreille, 1802

Tribe Andrenini Latreille, 1802

Species recently described as new to science

***Andrena* (*Euandrena*) *abscondita* Wood, 2023**

Andrena (*Euandrena*) *abscondita* Wood, 2023a: 40–43. Holotype ♀; Morocco, Fès-Meknès, Tiguelmamine, Col du Zad; 21 May 2022; T.J. Wood leg./det.; OÖLM.

Regional distribution. Fès-Meknès, Marrakech-Safi.

Global distribution. Morocco and Tunisia (Wood 2023a, Skaou *et al.* 2025).

***Andrena* (*Micrandrena*) *anammas* Wood, 2023**

Andrena (*Micrandrena*) *anammas* Wood, 2023a: 48–50. Holotype ♀; Morocco, Fès-Meknès, Ifrane, P7231, 2 km NE of Michlifen; 24 May 2022; T.J. Wood leg./det.; OÖLM.

Regional distribution. Fès-Meknès.

Global distribution. Currently only known from Morocco (Wood 2023a).

***Andrena* (*Micrandrena*) *atlantea* Wood, 2021**

Andrena (*Micrandrena*) *atlantea* Wood, 2021: 24–26. Holotype ♀; Morocco, Marrakech-Safi, Oukaimeden; 8 May 2015; Mucska leg./det.; OÖLM (Figure 2).

Regional distribution. Marrakech-Safi.

Global distribution. Currently only known from Morocco (Wood 2021).

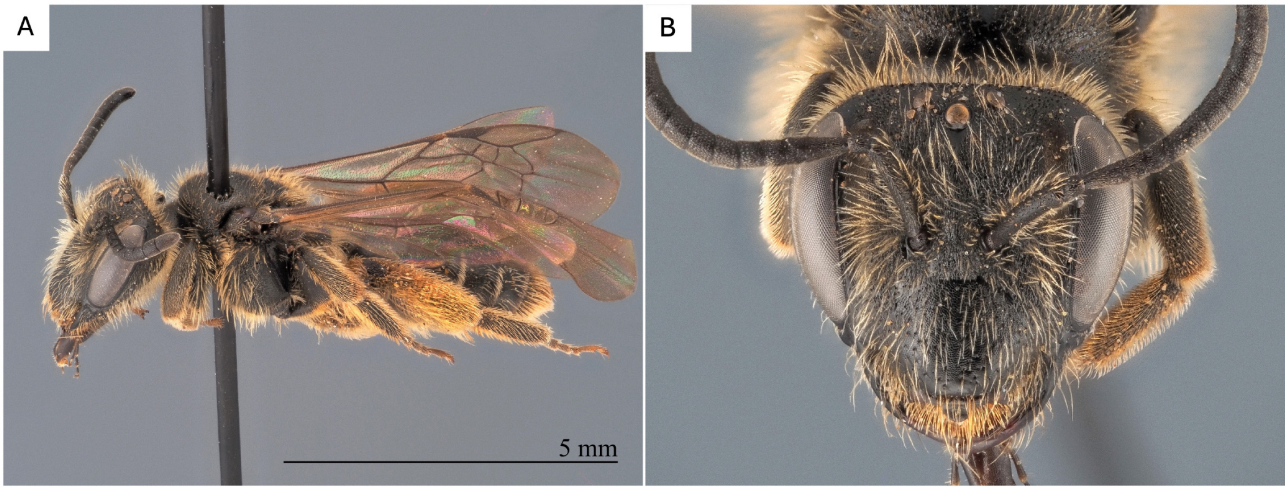

FIGURE 2. A. *Andrena* (*Micrandrena*) *atlantea* Wood, 2021 female, habitus in lateral view. **B.** *Andrena atlantea* female, head in frontal view. Pictures by Paolo Rosa.

***Andrena* (*Aciandrena*) *bendai* Wood, 2023**

Andrena (*Aciandrena*) *bendai* Wood, 2023a: 26–29. Holotype ♀; Morocco, Marrakech-Safi, Rehamna, Skhour des Rehamna; 1–3 Apr. 2019; D. Benda leg.; T.J. Wood det.; NMPC.

Regional distribution. Marrakech-Safi.

Global distribution. Currently only known from Morocco (Wood 2023a).

***Andrena* (*Euandrena*) *berberica* Wood, 2023**

Andrena (*Euandrena*) *berberica* Wood, 2023a: 43–45. Holotype ♀; Morocco, Souss-Massa, Tafraoute, Iguissle, 3 km E of Tanalt; 21 Mar. 2022; T.J. Wood leg./det.; OÖLM.

Regional distribution. Souss-Massa.

Global distribution. Currently only known from Morocco (Wood 2023a).

***Andrena* (*Hoplandrena*) *darha* Wood, 2023**

Andrena (*Hoplandrena*) *darha* Wood, 2023a: 45–48. Holotype ♀; Morocco, Drâa-Tafilalet, Ouarzazate, P1507, 3 km SSE of Irhels; 12 Apr. 2022; T.J. Wood leg./det.; OÖLM (Figure 3).

Regional distribution. Drâa-Tafilalet.

Global distribution. Currently only known from Morocco (Wood 2023a).

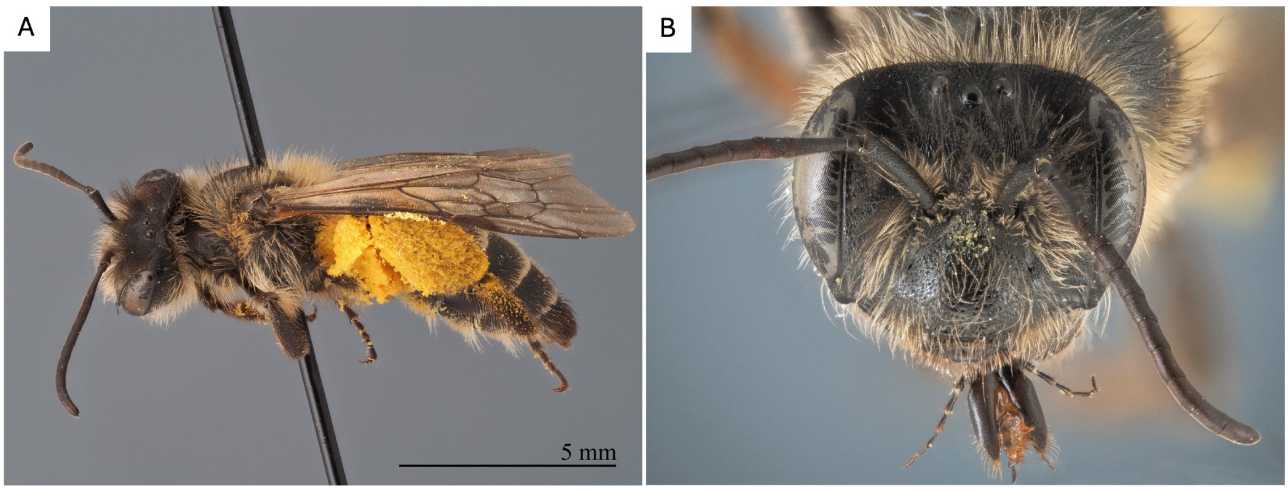

FIGURE 3. A. *Andrena* (*Hoplandrena*) *darha* Wood, 2023 female, habitus in lateral view. **B.** *Andrena darha* female, head in frontal view. Pictures by Paolo Rosa.

Andrena (*Micrandrena*) *gemina* Wood, 2023

Andrena (*Micrandrena*) *gemina* Wood, 2023a: 51–54. Holotype ♀; Morocco, Souss-Massa, R105, Tizirt, 10 km N of Agadir N'Guemzt; 12 Mar. 2022; T.J. Wood leg./det.; OÖLM.

Regional distribution. Souss-Massa.

Global distribution. Currently only known from Morocco (Wood 2023a).

Andrena (*Aciandrena*) *ifranensis* Wood, 2023

Andrena (*Aciandrena*) *ifranensis* Wood, 2023a: 29–32. Holotype ♀; Morocco, Fès-Meknès, E of Ifrane; 26 Apr. 2017; L. Černý leg.; T.J. Wood det.; OÖLM.

Regional distribution. Fès-Meknès.

Global distribution. Currently only known from Morocco (Wood 2023a).

Andrena (incertae sedis) *muelleri* Wood, 2023

Andrena muelleri Wood, 2023a: 60–63. Holotype ♀; Morocco, Souss-Massa, 20 km N of Tafraoute; 14 Apr. 2017; A. Müller leg.; T.J. Wood det.; OÖLM.

Regional distribution. Souss-Massa.

Global distribution. Currently only known from Morocco (Wood, 2023a).

Andrena (*Aciandrena*) *quieta* Wood, 2023

Andrena (*Aciandrena*) *quieta* Wood, 2023a: 36–40. Holotype ♂; Morocco, Casablanca-Settat, El Jadida, 4 km NW of Quartier Arriad; 1–3 Apr. 2019; D. Benda leg.; T.J. Wood det.; NMPC.

Regional distribution. Casablanca-Settat, Marrakech-Safi.

Global distribution. Morocco and Tunisia (Wood, 2023a; Skaou *et al.* 2025).

Andrena (*Micrandrena*) *tinctoria* Wood, 2023

Andrena (*Micrandrena*) *tinctoria* Wood, 2023a: 54–57. Holotype ♀; Morocco, Drâa-Tafilalet, Ouarzazate, 1 km N of Sour; 13 Apr. 2022; T.J. Wood leg./det.; OÖLM (Figure 4).

Regional distribution. Drâa-Tafilalet.

Global distribution. Currently only known from Morocco (Wood, 2023a).

Species recorded in Morocco since 2020

Andrena (*Holandrena*) *flavilabris* Schenck, 1874

Regional distribution. Fès-Meknès.

Global distribution. Distribution unclear due to historical synonymy with *Andrena decipiens*, but likely comprising Morocco, Algeria, most of Europe, Cyprus, Turkey, and the Caucasus (Wood 2023a).

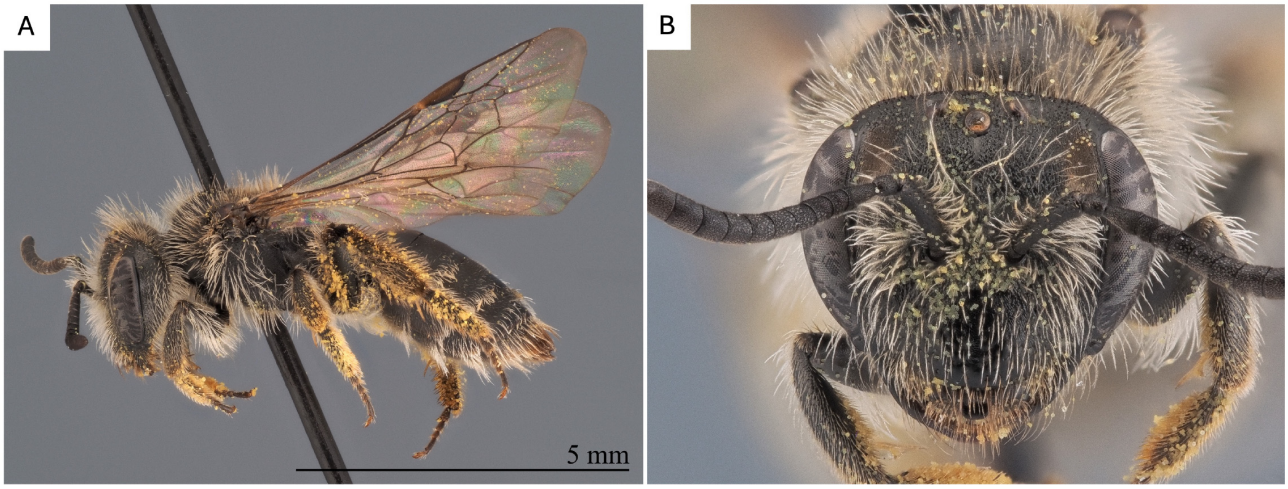

FIGURE 4. A. *Andrena* (*Micrandrena*) *tinctoria* Wood, 2023 female, habitus in lateral view. **B.** *Andrena tinctoria* female, head in frontal view. Pictures by Paolo Rosa.

***Andrena* (*Notandrena*) *inflata* Wood, 2021**

Notes. Only the male of the species is described (Wood 2021). Barcoding of Moroccan female specimens currently identified as *Andrena aerinifrons* could help uncover the identity of the female of this species (Wood 2023a).
Regional distribution. Marrakech-Safi.
Global distribution. Morocco and Tunisia (Wood 2021, 2023a).

***Andrena* (*Taeniandrena*) *lusitania* Wood & Ortiz-Sánchez, 2022**

Regional distribution. Béni Mellal-Khénifra.
Global distribution. Morocco, Spain and Portugal (Wood & Ortiz-Sánchez 2022; Wood 2023a).

***Andrena* (incertae sedis) *maidaqi* Scheuchl & Gusenleitner, 2007**

Regional distribution. Souss-Massa.
Global distribution. Morocco, Oman and the United Arab Emirates (Scheuchl & Gusenleitner 2007; Wood 2023a,b).

***Andrena* (*Notandrena*) *microthorax* Pérez, 1895**

Regional distribution. Rabat-Salé-Kénitra.
Global distribution. Morocco, Spain, Algeria, and Tunisia (Gusenleitner & Schwarz 2002; Wood 2023a).

***Andrena* (*Graecandrena*) *nebularia* Warncke, 1975**

Regional distribution. Fès-Meknès.
Global distribution. Morocco and Spain (Wood 2023b).

***Andrena* (*Plastandrena*) *nigrospina* Thomson, 1872**

Notes. Distribution is unclear due to historical synonymy with *Andrena* (*Plastandrena*) *pilipes* Fabricius, 1781.
Regional distribution. Béni Mellal-Khenifra.
Global distribution. Morocco and temperate areas of Europe to Turkey and Central Asia (Wood 2023a).

***Andrena* (*Leucandrena*) *parviceps* Kriechbaumer, 1873**

Regional distribution. Marrakech-Safi.
Global distribution. Morocco (High Atlas), Southern and Central Europe to Turkey and northern Iran (Gusenleitner & Schwarz 2002; Wood & Monfared 2022; Wood 2023a).

***Andrena* (*Notandrena*) *reperta* Warncke, 1974**
Regional distribution. Fès-Meknès.
Global distribution. Morocco, Algeria and Tunisia (Wood 2023a).

New species for Morocco

***Andrena* (*Truncandrena*) *mucronata* Morawitz, 1871**
MOROCCO • 1♂; Marrakech-Safi, Rehamna, gas station; 513 m a.s.l.; 26 Feb. 2024; D. Benda leg.; T.J. Wood det.; TJWC • 1♂; Marrakech-Safi, Smamda env.; 419 m a.s.l.; D. Benda leg.; T.J. Wood det.; NMPC.
Regional distribution. Marrakech-Safi.
Global distribution. North-west Africa (Morocco, Algeria, Tunisia and Libya), south-eastern Europe (Italy, Albania and Greece) and Israel (Gusenleitner & Schwarz 2002).

Published synonymies

***Andrena* (*Melandrena*) *discors* Erichson, 1841**
Notes. *Andrena vachali* Pérez, 1895 was synonymised with *A. discors,* which is the senior synonym (Wood 2023a, b).
Regional distribution. Fès-Meknès, Guelmim-Oued Noun, Marrakech-Safi, Oriental, Rabat-Salé-Kénitra, Tanger-Tétouan-Al Hoceima, Laayoune-Boujdour-Sakia El Hamra, Dakhla-Oued Ed-Dahab.
Global distribution. Portugal, Spain (Canary Islands, mainland), Morocco, Algeria, Tunisia, Italy, Malta, Libya, Greece (Crete), Egypt, Israel, Jordan (Wood 2023b; Skaou *et al.* 2025).

***Andrena* (*Euandrena*) *lavandulae* Pérez, 1902**
Notes. *Andrena angustior impressa* Warncke, 1967 was elevated to the species level in Wood *et al.* (2021) and was then synonymised under *A. lavandulae* (Wood 2023b).
Regional distribution. Fès-Meknès, Guelmim-Oued Noun Rabat-Salé-Kénitra, Souss-Massa, Tanger-Tétouan-Al Hoceima.
Global distribution. Morocco, Spain, Portugal, France and Algeria (Wood *et al.* 2021, as *A. impressa*).

***Andrena* (*Melandrena*) *morio* Brullé, 1833**
Notes. *Andrena hispania* Warncke, 1967 was synonymised with *A. morio* Brullé, 1833, which is the senior synonym (Wood 2023a, b).
Regional distribution. Béni Mellal-Khénifra, Casablanca-Settat, Drâa-Tafilalet, Fès-Meknès, Guelmim-Oued Noun, Marrakech-Safi, Oriental, Rabat-Salé-Kénitra, Souss-Massa, Tanger-Tétouan-Al Hoceima.
Global distribution. West and Central Palearctic (Gusenleitner & Schwarz 2002).

***Andrena* (*Micrandrena*) *obsoleta* Pérez, 1895**
Notes. The status of this taxon was clarified by Wood (2023b), as it was incorrectly treated by Warncke (1967; 1974). It is the senior synonym of *Andrena mariana solda* Warncke, 1974. Lhomme *et al*. (2020) reported *A. obsoleta* from Morocco, but this was under a *sensu auctorum*; those records are correctly referred to as *A. nitidula* Pérez, 1903.
Regional distribution. Marrakech-Safi, Oriental, Tanger-Tétouan-Al Hoceima.
Global distribution. Morocco, Algeria, Tunisia and Italy (Sicily) (Warncke 1974; Wood 2023a).

***Andrena* (*Taeniandrena*) *poupillieri* Dours, 1872**
Notes. *Andrena lecerfi* Benoist, 1961 was previously synonymised with *A. ovatula* (Kirby, 1802) by Gusenleitner & Schwarz (2002). Wood (2023a) synonymised *A. lecerfi* with *A. poupillieri*, which is the senior synonym. *A. ovatula* s. str. is not present in Morocco (Wood 2023a).
Regional distribution. Béni Mellal-Khénifra, Casablanca-Settat, Drâa-Tafilalet, Fès-Meknès, Marrakech-Safi, Oriental, Rabat-Salé-Kénitra, Souss-Massa, Tanger-Tétouan-Al Hoceima.
Global distribution. Morocco, Algeria, Tunisia and Spain (Wood 2023b).

***Andrena* (*Simandrena*) *rhypara* Pérez, 1903**

Notes. *Andrena palumba* Warncke, 1974 was synonymised with *A. rhypara* Pérez, 1903, which is the senior synonym (Wood 2023a).

Regional distribution. Béni Mellal-Khénifra; Drâa-Tafilalet; Guelmim-Oued Noun; Marrakech-Safi; Oriental; Souss-Massa.

Global distribution. Spain, Morocco, Algeria, Tunisia, Italy (Sicily) (Gusenleitner & Schwarz 2002; Wood 2023a).

***Andrena* (*Notandrena*) *zygophylli* Saunders, 1908**

Notes. Lhomme *et al*. (2020) included *Andrena eddaensis* Gusenleitner, 1998 (described from Tunisia) on the Moroccan list. Wood (2023a) synonymized *Andrena eddaensis* with *A. albohirta* Saunders, 1908 (described from Algeria). However, the correct name to apply to this taxon has been greatly confused by past and current workers. Originally described as *Andrena albohirta* Saunders, 1908 (Saunders 1908a), Warncke (1967: 196) considered this name to be a junior secondary homonym of *A. albihirta* (Ashmead, 1890), creating the replacement name *A. decaocta* Warncke, 1967. Wood (2023a: 20) considered this action unjustified because there was a one letter difference between the names, and hence restored *A. albohirta* as the valid name, additionally synonymising *A. eddaensis*.

However, personal correspondence from Cory Sheffield (Royal Saskatchewan Museum, Canada) highlighted that Warncke correctly applied the ICZN code, because under Article 58.12 the use of different connecting vowels in compound words is considered to render names identical, and hence as compound words, *albohirta* and *albihirta* are equivalent. Furthermore, what was not noticed by any workers until Sheffield (*pers. comm.*) is that Saunders (1908b) was actually informed of this problem of homonymy by Cockerell, and Saunders (1908b: xxxix) provided the replacement name *Andrena zygophylli* Saunders, 1908 in the same journal volume. Both Saunders (1908a; 1908b) were published on 29 Sep. 1908. The correct name to apply to this taxon is therefore *A. zygophylli*.

Regional distribution. Drâa-Tafilalet, Guelmim-Oued Noun.

Global distribution. Morocco, Algeria, Tunisia (Wood 2023a).

Taxonomic acts and clarifications

***Andrena* (*Truncandrena*) *abunda* Warncke, 1974**

Notes. *Andrena medeninensis abunda* was elevated to the species level (Wood 2023a). It was previously reported from Morocco and Algeria as *A. medinensis abunda* by Warncke (1974).

Regional distribution. Fès-Meknès, Rabat-Salé-Kénitra, Drâa-Tafilalet.

Global distribution. Morocco and Algeria (Warncke 1974; Wood 2023a).

***Andrena* (*Graecandrena*) *andina* Warncke, 1974**

Notes. *Andrena montarca andina* was elevated to the species level (Wood 2023a).

Regional distribution. Fès-Meknès, Béni Mellal-Khénifra; Casablanca-Settat; Marrakech-Safi

Global distribution. Currently only known from Morocco (Wood 2023a).

***Andrena* (*Taeniandrena*) *beaumonti* Benoist, 1961**

Notes. *Andrena wilkella beaumonti* was elevated to the species level (Wood *et al.* 2021).

Regional distribution. Marrakech-Safi, Souss-Massa.

Global distribution. Currently only known from Morocco (Wood *et al.* 2021).

***Andrena* (*Simandrena*) *cilissaeformis* Pérez, 1895**

Notes. The use of the name *Andrena breviscopa* to apply to the taxon present in Spain, Morocco, and Algeria was incorrect (applied in a *sensu auctorum*). The correct name is *A. cilissaeformis* Pérez, 1895 (Wood 2023a).

Regional distribution. Béni Mellal-Khénifra, Casablanca-Settat, Marrakech-Safi, Rabat-Salé-Kénitra, Souss-Massa.

Global distribution. Morocco, Spain and Algeria (Wood 2023a).

***Andrena* (*Avandrena*) *eureka* Warncke, 1974**
Notes. Wood (2024) elevated *Andrena avara eureka* to species status.
Regional distribution. Fès-Meknès, Rabat-Salé-Kénitra, Marrakech-Safi, Souss-Massa.
Global distribution. Currently only known from Morocco (Wood 2024).

***Andrena* (*Suandrena*) *fratella* Warncke, 1968**
Notes. Kratochwil (2021) elevated *Andrena cyanomicans fratella* to species status.
Regional distribution. Drâa-Tafilalet, Marrakech-Safi, Souss-Massa
Global distribution. Morocco, Algeria, Tunisia and Libya (Kratochwil 2021).

***Andrena* (*Micrandrena*) *heliaca* Warncke, 1974**
Notes. *Andrena pandosa heliaca* was elevated to the species level (Wood 2023a) (Figure 5).
Regional distribution. Béni Mellal-Khenifra, Drâa-Tafilalet, Fès-Meknès, Souss-Massa, Marrakech-Safi, Guelmim-Oued Noun.
Global distribution. Currently only known from Morocco (Wood 2023a).

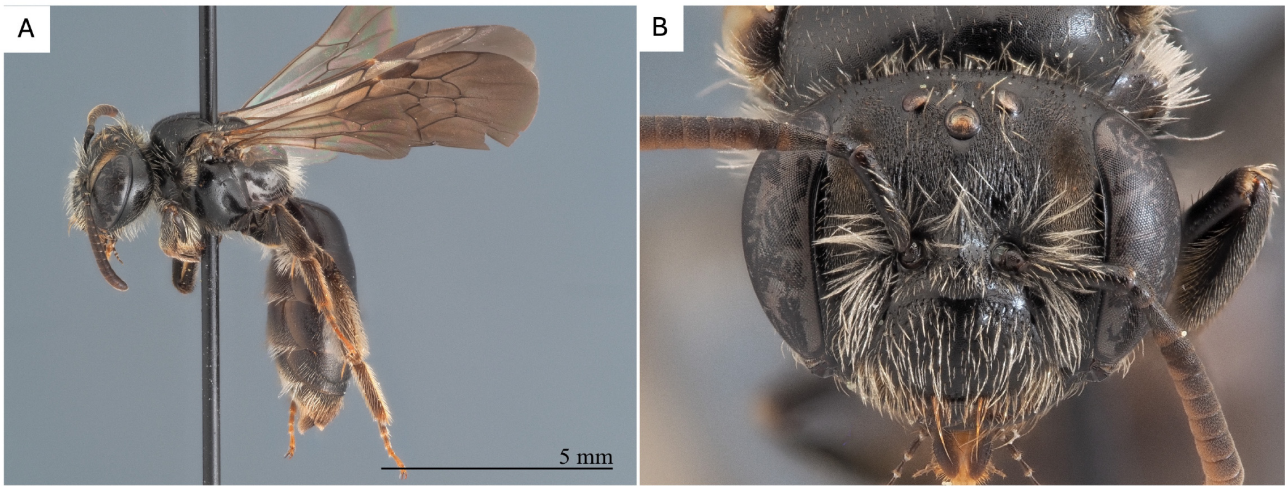

FIGURE 5. A. *Andrena* (*Micrandrena*) *heliaca* Warncke, 1974 female, habitus in lateral view. **B.** *Andrena heliaca* female, head in frontal view. Pictures by Paolo Rosa.

***Andrena* (*Micrandrena*) *mica* Warncke, 1974**
Notes. *Andrena mariana mica* was elevated to the species level (Wood 2023b).
Regional distribution. Casablanca-Settat, Fès-Meknès, Marrakech-Safi, Souss-Massa.
Global distribution. Morocco, Algeria and Tunisia (Wood 2023b).

***Andrena* (*Truncandrena*) *nigropilosa* Warncke, 1967**
Notes. Wood (2023b) elevated the subspecies *Andrena truncatilabris nigropilosa* to species status, replacing *A. truncatilabris* Morawitz, 1877 in Morocco.
Regional distribution. Fès-Meknès, Béni Mellal-Khénifra, Oriental, Rabat-Salé-Kénitra, Souss-Massa.
Global distribution. Morocco, Algeria, Tunisia, Portugal, Spain and France (Wood 2023b).

***Andrena* (*Micrandrena*) *nitidula* Pérez, 1903**
Notes. The use of the name *Andrena obsoleta* Pérez, 1895, to apply to the taxon present in Morocco in Lhomme *et al.* (2020) was incorrect (applied in a *sensu auctorum*). The correct name is *A. nitidula* Pérez, 1903. This correction follows Wood (2023b), who clarified that *A. obsoleta* was misapplied due to an incorrect lectotype designation by Warncke (1967), and that all North African specimens morphologically conform to the concept of *A. nitidula*.
Regional distribution. Fès-Meknès, Marrakech-Safi, Rabat-Salé-Kénitra, Tanger-Tétouan-Al Hoceima, Oriental.
Global distribution. France, Spain, Portugal.

***Andrena* (*Micrandrena*) *pauxilla* Stöckhert, 1935**
Notes. *Andrena spreta pauxilla* was elevated to the species level (Wood 2023b).
Regional distribution. Fès-Meknès.
Global distribution. Morocco, Spain, France and Germany (Wood 2023b).

***Andrena* (*Taeniandrena*) *zachroa* Cockerell, 1930**
Notes. Wood (2025a) resurrected *Andrena zachroa* (described from Tunisia) as the senior synonym of *A. prazi* Wood, 2023 (described from Morocco and Tunisia), as it was incorrectly originally synonymised under *A. caroli* Pérez, 1895 by Warncke (1967). This has the net effect of adding a single species to the fauna, under the name *A. zachroa*.
Regional distribution. Fès-Meknès, Oriental, Souss-Massa.
Global distribution. Morocco and Tunisia (Wood 2023a; 2025b).

***Andrena* (*Pruinosandrena*) *succinea* Dours, 1872**
Notes. *Andrena pruinosa succinea* was elevated to the species level (Wood 2023b), with *A. pruinosa* Erichson, 1835 considered to be endemic to Spain.
Regional distribution. Tanger-Tetouan-Al Hoceima, Fès-Meknès, Rabat-Salé-Kénitra, Béni Mellal-Khénifra, Marrakech-Safi, Souss-Massa, Guelmim-Oued Noun.
Global distribution. Morocco, Algeria, Tunisia, Libya, Egypt, Israel, Palestine, Jordan, Syria, Saudi Arabia and Iran (Wood & Monfared 2022).

Species removed from the Moroccan checklist

***Andrena* (*Suandrena*) *cyanomicans* Pérez, 1895**
Notes. *Andrena cyanomicans* is endemic to Spain; Moroccan material belongs to the former subspecies *A. fratella* Warncke, 1968 (Kratochwil 2021).

***Andrena* (incertae sedis) *melaleuca* Pérez, 1895**
Notes. The specimens presented by Wood *et al.* (2020) were misidentified, their true identity is *A. macroptera* (Wood 2023a).

***Andrena* (*Taeniandrena*) *ovatula* (Kirby, 1802)**
Notes. *Andrena ovatula* s. str. is not found in north-western Africa; all putative material examined to date refers to *A. poupillieri* (Praz *et al.* 2022; Wood 2023b).

***Andrena* (*Taeniandrena*) *wilkella* (Kirby, 1802)**
Notes. *Andrena wilkella* has a south-western range limit in central Spain and it is not found in North Africa (Wood 2023a, b). It was previously listed under the incorrect concept *A. wilkella beaumonti*, this taxon is now treated as distinct and endemic to the High Atlas Mountains.

Species lacking previously published records

***Andrena* (*Truncandrena*) *villipes* Pérez, 1895**
Material examined: MOROCCO • 1♂; Fès-Meknès, Ifrane; 9 May 1997; K. Deneš leg.; T.J. Wood det.; OÖLM.
Regional distribution. Tanger-Tétouan-Al Hoceima, Fès-Meknès.
Global distribution. Morocco, Portugal, Spain, France and Italy (Gusenleitner and Schwarz 2002; Lhomme *et al.* 2020, Wood 2023b).

Tribe Melliturgini Newman, 1834

Species recorded in Morocco since 2020

***Melitturga* (*Australomelitturga*) *rubricata* Morice, 1916**
Regional distribution. Oriental.
Global distribution. Morocco and Algeria (Morice 1916; Wood 2023c).

Tribe Panurgini Leach, 1815

Species recorded in Morocco since 2020

***Camptopoeum* (*Camptopoeum*) *handlirschi* Friese, 1900**
Regional distribution. Oriental.
Global distribution. Morocco, Tunisia and Algeria (Warncke 1972; Wood 2023c).

Family APIDAE Latreille, 1802

Tribe Ammobatini Handlirsch, 1925

Species recorded in Morocco since 2020

***Ammobates* (*Ammobates*) *rufiventris* Latreille, 1809**
Regional distribution. Marrakech-Safi.
Global distribution. Morocco, Algeria, Tunisia, Portugal, Spain and Italy (Kuhlmann *et al.* 2014; Wood 2023c; Skaou *et al.* 2025).

Species lacking previously published records

***Ammobates* (*Ammobates*) *syriacus* Friese, 1899**
Material examined: MOROCCO • 1♀; Souss-Massa, Tiznit, Oued Massa; 9 Mar. 1990; H. Teunissen leg.; T.J. Wood det.; RMNH; RMNH.INS.1652094.
Regional distribution. Souss-Massa.
Global distribution. Morocco, Algeria, Tunisia, Lybia, Palestine, Jordan.

Tribe Ammobatoidini Michener, 1944

Species recently described as new to science

***Ammobatoides schwarzi* Wood, 2023**
Ammobatoides schwarzi Wood, 2023c: 2–6. Holotype ♂; Morocco, Drâa-Tafilalet, Ouarzazate, P1507, 3 km SSE Irhels [also written as Ighels]; 12 Apr. 2022; T.J. Wood leg./det.; OÖLM.
Regional distribution. Drâa-Tafilalet.
Global distribution. Currently only known from Morocco (Wood 2023c).

Species recorded in Morocco since 2020

***Schmiedeknechtia oraniensis* Friese, 1896**
Material examined: MOROCCO • 1♀; Fès-Meknès, Sefrou; 769 m a.s.l.; 50 km W of Meknes; 19 May 1997; J. Halada leg.; T.J. Wood det.; OÖLM
Regional distribution. Fès-Meknès.
Global distribution. Morocco, Algeria and Tunisia (Schwarz 1993; Lhomme 2019).

Tribe Anthophorinae Dahlbom, 1835

Species recently described as new to science

***Anthophora* (*Paramegilla*) *ahlamae* Rasmont & Wood, 2024**
Anthophora ahlamae Rasmont & Wood, 2024: 153–164. Holotype ♂; Morocco, Marrakech-Safi, Safi; 14 May 2023; A. Sentil leg.; P. Rasmont det.; MCAT.
Regional distribution. Marrakech-Safi.
Global distribution. Morocco, Algeria and possibly France (Rasmont & Wood 2024).

Species recorded in Morocco since 2020

***Anthophora* (*Paramegilla*) *blanda* Pérez, 1895**
Regional distribution. Souss-Massa.
Global distribution. Morocco, Algeria, Egypt and Israel (Rasmont 2014; Wood 2023c).

New species for Morocco

***Amegilla* (*Micramegilla*) *mucorea* (Klug, 1845)**
Material examined: MOROCCO • 1♀; Drâa-Tafilalet, Tarmigte Lac de Tifratine (30.86445, -6.84300); 1115 m a.s.l; 17 Apr. 2024; V. Leclercq leg.; P. Rasmont det.; VLC • 1♂; Laâyoune-Sakia El Hamra, Smara; 181 m a.s.l.; 21 Mar. 2024; W-H. Liebig leg.; T.J. Wood det.; WHLC • 1♀; Souss-Massa, Tissint 2 km S; 561 m a.s.l.; 28 Mar. 2024; W-H. Liebig leg.; T.J. Wood det.; WHLC • 1♂; Souss-Massa, 42 km SW Foum-Zguid, N12; 27 Mar. 2024; C. Schmid-Egger leg.; T.J. Wood det.; CSE.
Regional distribution. Laâyoune-Sakia El Hamra, Souss-Massa, Drâa-Tafilalet.
Global Distribution. North and Eastern Africa, Middle-East, Pakistan and India (Ascher & Pickering 2025). We consider the listing from Sri Lanka to be an encoding error, as *Amegilla mucorea* is a species of semi-arid habitats.

***Amegilla* (*Micramegilla*) *velocissima* (Fedchenko, 1875)**
Material examined: MOROCCO • 2♀; Béni Mellal-Khénifra, Ait Bou Aziz (32.51518, -4.47453); 1680 m a.s.l; 3 Jun. 1996; P. Rasmont leg.; P. Rasmont det.; UMONS • 1♀; Béni Mellal-Khénifra, Ras el Aïn (32.00370, -8.41569); 486 m a.s.l; 8 Jun. 2024; A. Skaou & Dbiba leg.; P. Rasmont det.; ASC • 1♀; Béni Mellal-Khénifra, Ras el Aïn (32.00370, -8.41569); 486 m a.s.l; 8 Jun. 2024; A. Skaou & Dbiba leg.; P. Rasmont det.; ASC • 1♂, 7♀; Drâa-Tafilalet, Agoudim (32.22985, -4.67787); 1413 m a.s.l; 18 Sep. 2018; O. Ihsane leg.; P. Rasmont det.; UMONS • 1♀; Drâa-Tafilalet, Ait Said (32.23830, -4.66249); 1406 m a.s.l; 31 Jul. 2019; O. Ihsane & A. Sentil leg.; P. Rasmont det.; UMONS • 1♀; Drâa-Tafilalet, Ait Said (32.24279, -4.66134); 1408 m a.s.l; 8 Aug. 2018; O. Ihsane leg.; P. Rasmont det.; UMONS • 1♂, 6♀; Drâa-Tafilalet, Ait Said, M'Zizel (32.22520, -4.69770); 1423 m a.s.l; 31 Jul. 2019; O. Ihsane & A. Sentil leg.; P. Rasmont det.; UMONS • 2♀; Drâa-Tafilalet, Ait Said, M'Zizel (32.22520, -4.69770); 1423 m a.s.l; 12 Jul. 2019; P. Rasmont & O. Ihsane leg.; P. Rasmont det.; UMONS • 7♀; Drâa-Tafilalet, Lekrayer, El Jorf (31.43586, -4.33627); 797 m a.s.l; 20 Sep. 2018; O. Ihsane leg.; P. Rasmont det.; UMONS • 3♀; Drâa-Tafilalet, Messoudia, Gheris (31.37172, -4.28694); 778 m a.s.l; 28 Jun. 2018; O. Ihsane & C. Smaili leg.; P. Rasmont det.; UMONS • 1♀; Drâa-Tafilalet, Messoudia, Gheris (31.37172, -4.28694); 778 m a.s.l; 9 Aug. 2018; O.

Ihsane leg.; P. Rasmont det.; UMONS • 8♀; Drâa-Tafilalet, Messoudia, Gheris (31.37172, -4.28694); 778 m a.s.l; 20 Sep. 2018; O. Ihsane leg.; P. Rasmont det.; UMONS • 2♂, 2♀; Drâa-Tafilalet, M'Zizel (32.22159, -4.75640); 1484 m a.s.l; 8 Jul. 2019; P. Rasmont & O. Ihsane leg.; P. Rasmont det.; UMONS • 3♀; Drâa-Tafilalet, M'Zizel (32.22159, -4.75640); 1484 m a.s.l; 14 Jul. 2019; P. Rasmont & O. Ihsane leg.; P. Rasmont det.; UMONS • 2♀; Drâa-Tafilalet, M'Zizel (32.22544, -4.69058); 1423 m a.s.l; 12 Jul. 2019; P. Rasmont & O. Ihsane leg.; P. Rasmont det.; UMONS • 10♀; Drâa-Tafilalet, Sidi Boukil (32.22089, -4.75815); 1486 m a.s.l; 27 Jul. 2018; O. Ihsane leg.; P. Rasmont det.; UMONS • 1♀; Drâa-Tafilalet, Sidi Boukil (32.22089, -4.75815); 1499 m a.s.l; 20 Aug. 2018; O. Ihsane leg.; P. Rasmont det.; UMONS • 12♀; Drâa-Tafilalet, Sidi Boukil (32.22089, -4.75815); 1486 m a.s.l; 18 Sep. 2018; O. Ihsane leg.; P. Rasmont det.; UMONS • 1♀; Drâa-Tafilalet, Sidi Boukil (32.22760, -4.69649); 1428 m a.s.l; 12 Jul. 2019; P. Rasmont & O. Ihsane leg.; P. Rasmont det. • 1♀; Drâa-Tafilalet, Sidi Boukil (32.22760, -4.69649); 1428 m a.s.l; 4 Aug. 2019; O. Ihsane & A. Sentil leg.; P. Rasmont det.; UMONS • 1♀; Drâa-Tafilalet, Sidi boukil (32.22858, -4.70578); 1425 m a.s.l; 7 Aug. 2018; O. Ihsane leg.; P. Rasmont det.; UMONS • 4♀; Drâa-Tafilalet, Sidi boukil (32.22858, -4.70578); 1425 m a.s.l; 18 Sep. 2018; O. Ihsane leg.; P. Rasmont det.; UMONS • 1♀; Drâa-Tafilalet, Sidi Boukil (32.23109, -4.71010); 1433 m a.s.l; 18 Jun. 2019; O. Ihsane & A. Sentil leg.; P. Rasmont det.; UMONS • 3♀; Drâa-Tafilalet, Sidi Boukil, M'Zizel (32.21680, -4.69469); 1423 m a.s.l; 10 Jul. 2019; P. Rasmont & O. Ihsane leg.; P. Rasmont det.; UMONS • 1♂; Drâa-Tafilalet, Sidi Boukil, M'Zizel (32.22333, -4.68533); 1425 m a.s.l; 12 Jul. 2019; P. Rasmont & O. Ihsane leg.; P. Rasmont det.; UMONS • 1♀; Drâa-Tafilalet, Sidi Boukil, M'Zizel (32.22460, -4.69460); 1422 m a.s.l; 9 Jul. 2019; P. Rasmont & O. Ihsane leg.; P. Rasmont det.; UMONS • 2♀; Drâa-Tafilalet, Sidi Boukil, M'Zizel (32.22689, -4.69549); 1422 m a.s.l; 15 Jul. 2019; P. Rasmont & O. Ihsane leg.; P. Rasmont det.; UMONS • 1♀; Drâa-Tafilalet, Sidi Boukil, M'Zizel (32.22755, -4.69669); 1428 m a.s.l; 12 Jul. 2019; P. Rasmont & O. Ihsane leg.; P. Rasmont det.; UMONS • 1♀; Drâa-Tafilalet, Sidi Boukil, Sidi Boukil (32.22359, -4.68529); 1419 m a.s.l; 31 Jul. 2019; O. Ihsane & A. Sentil leg.; P. Rasmont det.; UMONS • 4♀; Drâa-Tafilalet, Tabia, M'Zizel (32.22959, -4.67840); 1421 m a.s.l; 10 Jul. 2019; P. Rasmont & O. Ihsane leg.; P. Rasmont det.; UMONS • 1♀; Drâa-Tafilalet, Talia, Aït Sais (32.23652, -4.66880); 1416 m a.s.l; 9 Jul. 2019; P. Rasmont & O. Ihsane leg.; P. Rasmont det.; UMONS • 2♂, 7♀; Drâa-Tafilalet, Talia, Sidi Boukil (32.23649, -4.66890); 1408 m a.s.l; 9 Jul. 2019; P. Rasmont & O. Ihsane leg.; P. Rasmont det.; UMONS • 2♂, 2♀; Drâa-Tafilalet, Talia, Sidi Boukil (32.23649, -4.66890); 1408 m a.s.l; 3 Aug. 2019; O. Ihsane & A. Sentil leg.; P. Rasmont det.; UMONS • 1♀; Drâa-Tafilalet, Talia, Sidi Boukil (32.23649, -4.66890); 1408 m a.s.l; 9 Jul. 2019; P. Rasmont & O. Ihsane leg.; P. Rasmont det.; UMONS • 3♀; Drâa-Tafilalet, Zaouia Sidi Boukil, M'Zizel (32.22340, -4.69210); 1426 m a.s.l; 11 Jul. 2019; P. Rasmont & O. Ihsane leg.; P. Rasmont det.; UMONS • 1♀; Marrakech-Safi, Echemmaia (32.09299, -8.65600); 410 m a.s.l; 8 Jun. 2024; A. Skaou & Dbiba leg.; P. Rasmont det.; ASC • 1♀; Marrakech-Safi, Mejjat (31.48040, -8.41849); 516 m a.s.l; 13 Mar. 2023; A. Aglagane leg.; P. Rasmont det.; ASC • 2♀; Marrakech-Safi, Mejjat, Mejjat (31.48040, -8.41849); 516 m a.s.l; 30 May 2023; A. Skaou leg.; P. Rasmont det.; ASC.

Regional distribution. Marrakech-Safi, Drâa-Tafilalet, Béni Mellal-Khénifra.

Global distribution. Widely distributed from Morocco, Spain, Turkey, Lebanon, southern Russia, Azerbaijan, Iran, Turkmenistan, Kazakhstan, Kyrgyzstan, Uzbekistan, Afghanistan, Pakistan, northern China and Mongolia (Rasmont *et al.* in prep.).

***Anthophora* (*Petalosternon*) *extricata* Priesner, 1957**

Material examined: MOROCCO • 3♀; Drâa-Tafilalet, Erfoud (31.43610, -4.23277); 9 Mar. 1989; H. Teunissen leg.; P. Rasmont det.; RMNH

Regional distribution. Drâa-Tafilalet.

Global distribution. Morocco, Egypt and Israel (Rasmont 2014).

***Anthophora* (*Heliophila*) *fayoumensis* Priesner, 1957**

Material examined: MOROCCO • 1♂, 1♀; Drâa-Tafilalet, Amazrou (30.30533, -5.79396); 720 m a.s.l; 18 Apr. 2024; V. Leclercq leg.; P. Rasmont det.; VLC.

Regional distribution. Drâa-Tafilalet.

Global distribution. Morocco, Algeria, Egypt and Saudi Arabia (Rasmont 2014).

***Anthophora* (*Heliophila*) *humilis* (Spinola, 1838)**

Material examined: **MOROCCO •** 1♂; Drâa-Tafilalet, Anezal, 1km W, Tazenakht (30.76700, -7.31160); 1000 m

a.s.l; 15 Apr. 2022; T.J. Wood leg.; P. Rasmont det.; TJWC • 1♂; Guelmim-Oued Noun, Guelmim, Asrir 1km W (28.93429, -10.0202); 250 m a.s.l; 20 Mar. 2022; T.J. Wood leg.; P. Rasmont det.; UMONS • 1♂, 6♀; Guelmim-Oued Noun, Guelmim, Fask 2km SE (28.97500, -9.80980); 350 m a.s.l; 19 Mar. 2022; T.J. Wood leg.; P. Rasmont det.; TJWC/UMONS.
Regional distribution. Drâa-Tafilalet, Guelmim-Oued Noun.
Global distribution. North Africa and Israel (Rasmont 2014).

***Anthophora* (incertae sedis) *pulverosa* Smith, 1854**
Material examined: MOROCCO • 1♂, 1♀; Souss-Massa, Agadir coast; 15 Jun. 1974; G.R. Else & K.M. Guichard leg.; T.J. Wood det.; NHMUK • 1♂; S. Morocco, Souss-Massa, c. 15 km N Tiznit (Agadir road); 4 Apr. 1983; M. Edwards leg.; T.J. Wood det.; OUMNH.
Regional distribution. Souss-Massa.
Global distribution. Morocco and Spain (Canary Islands) (Smith 1854; Lieftinck 1958).

***Anthophora (Paramegilla) segnis* Eversmann, 1852**
Material examined: MOROCCO • 1♂, 1♀; Fès-Meknès, El Hajeb, (33.6388, -5.3729); 19 Jun. 2022; Rasmont P., Martinet B. & Bencharki Y. leg.; P. Rasmont det.; UMONS.
Regional distribution. Fès-Meknès.
Global distribution. Morocco, Algeria, Russia (European part), Kazakhstan, Tajikistan, and China (Xinjiang) (Rasmont *et al.*, in press).

***Anthophora* (*Heliophila*) *tridentella* Priesner, 1957**
Material examined: MOROCCO • 1♀; Drâa-Tafilalet, Erfoud (31.43610, -4.23277); 22 Mar. 1989; H. Teunissen leg.; P. Rasmont det.; VLC.
Regional distribution. Drâa-Tafilalet.
Global distribution. Morocco, Algeria and Egypt (Priesner 1957)

Published synonymies

***Anthophora* (*Anthophora*) *subterranea* (Germar, 1826)**
Notes. *Anthophora subterranea* (Germar, 1826) is the senior synonym of *A. canescens* Brullé, 1833 (Brooks 1988; Ghisbain & Rosa *et al.* in press).
Regional distribution. Tanger-Tetouan-Al Hoceima, Oriental, Fès-Meknès, Casablanca-Settat
Global distribution. Circum-Mediterranean. Outside Europe, known from the Near East and North Africa.

Taxonomic acts and clarifications

***Amegilla* (*Zebramegilla*) *talaris* (Pérez, 1895)**
Notes. The species was previously considered conspecific with *Amegilla albigena* (Lepeletier, 1841) by some authors (but not by Maurits Lieftinck or Donald Baker), and a careful revision of material from both taxa confirms that they are two distinct species. The type material has been examined (MNHN) and genetic data generated (Wood *et al.* 2024); *Amegilla talaris* will be treated in detail in an upcoming work focused on *Amegilla* (Rasmont & Wood, in prep).
Regional distribution. Tanger-Tetouan-Al Hoceima, Oriental, Fès-Meknès, Béni Mellal-Khénifra, Marrakech-Safi, Drâa-Tafilalet; Souss-Massa
Global distribution. Morocco, France, Spain, Portugal, Algeria and Tunisia (Rasmont & Wood, *in prep*.).

***Anthophora (Anthophora) hermanni* Schwarz & Gusenleitner, 2003**
Material examined. MOROCCO • 1♀; Drâa-Tafilalet, Agdz, 20 km NE; 5 Apr. 1980; K. Warncke leg.; T.J. Wood det.; OÖLM • 1♂; Oriental, Ain- Beni-Mathar [Ain Bni Mathar] Merija; 23 Apr. 1987; Scaramozzino leg.; T.J.

Wood det.; OÖLM • 1♀; Drâa-Tafilalet, Tazenakht, 9 km W Anezal; 1600 m a.s.l.; 16 Apr. 2022; T.J. Wood leg. & det.; TJWC; **ALGERIA** • 1♀; Saida, 10 km S of Sfissifa, st. 7; 6 Apr. 1983; R. Leys & P. v. d. Hurk leg.; T.J. Wood det.; RMNH; **TUNISIA** • 1♂, 1♀; 15 km W Nefta [Naftah], Oasis; 22 Mar. 2001; C. Schmid-Egger leg.; T.J. Wood det.; CSE • 1♂; 8 km S Tamerza; 23 Mar. 2001; C. Schmid-Egger leg.; T.J. Wood det.; CSE • 1♀; Oasis Tozeur; 23 Mar 2001; C. Schmid-Egger leg.; T.J. Wood det.; CSE; **EGYPT** • 1♀; Ain Sokhna rd, 29-43 km E of Maadi; 2 May 1992; C.G. Roche leg.; T.J. Wood det.; OUMNH • 1♀; Sinai, Catherine's Monastery; 18 Apr. 2000; C. Schmid-Egger leg.; T.J. Wood det.; CSE; **ISRAEL** • 1♂; Arava, 10 km W of Hazeva; 2 Mar. 1990; R. Leys leg.; T.J. Wood det.; RMNH • 1♂, 1♀; Arava, 4 km W of Hazeva; 19–29 Feb. 1988; R. Leys leg.; T.J. Wood det.; RMNH • 1♂; Arava, 4 km W of Hazeva; 27 Feb. 1990; R. Leys leg.; T.J. Wood det.; RMNH.

Notes. The species was classified into the subgenus *Pyganthophora* Brooks, 1988 in Lhomme *et al.* (2020), based on the listing of Brooks (1988). Reconsideration of the species and the morphology of the genital capsule suggests that this species belongs to the subgenus *Anthophora* Latreille, 1803 due to the apex of the gonocoxae which are divided, laterally presenting a strong tooth. We confirm the presence of *A. hermanni* in Morocco relative to the refined concepts presented by Schwarz & Gusenleitner (2003).

Regional distribution. Drâa-Tafilalet, Oriental.

Global distribution. Morocco, Algeria*, Tunisia*, Egypt and Israel* (Schwarz & Gusenleitner 2003; Grabener 2017). Countries marked with an asterisk (*) are new records provided herein.

***Anthophora* (*Anthophora*) *scopipes* Spinola, 1838**

Material examined. MOROCCO • 4♀; Drâa-Tafilalet, Erfoud/Tafilalet; 6–9 Mar. 1989; H. Teunissen leg.; P. Rasmont det.; RMNH • 1♂; Drâa-Tafilalet, Km. 30 Ouarzazate-Agdz road; 23 Apr. 1974; G.R. Else & K.M. Guichard leg.; D.B. Baker/T.J. Wood det.; NHMUK; **ALGERIA** • 2♀; Dayet el Kerch [Daïet el Kerch], st. 5; 5 Apr. 1983; R. Leys & P. v. d. Hurk leg.; T.J. Wood det.; RMNH; **LIBYA** • 1♀; Cyrenaica, Brega; 4–31 Mar. 1958; K.M. Guichard leg.; T.J. Wood det.; NHMUK • 1♀; Cyrenaica, R.U. Agrario, Marada [Maradah]; G.C. Krüger leg.; T.J. Wood det.; MSNG • 1♂; Sirtica occ., [illegible]; 15 Feb. 1939; G.C. Krüger leg.; T.J. Wood det.; MSNG • 2♂, 2♀; Tripolitana, Bu el-Gherab [Bi'r Abu al Ghurab]; 10–14 Apr. 1953; Grandi leg.; M.A. Lieftinck det.; RMNH.

Notes. The species was classified into the subgenus *Pyganthophora* Brooks, 1988 in Lhomme *et al.* (2020), based on the listing of Brooks (1988). Reconsideration of the species and the morphology of the genital capsule suggests that this species belongs to the subgenus *Anthophora* Latreille, 1803 due to the apex of the gonocoxae, which are divided, laterally presenting a strong tooth. We confirm the presence of *A. scopipes* sensu stricto in Morocco consistent with the refined species concept presented by Schwarz & Gusenleitner (2003).

Regional distribution. Drâa-Tafilalet.

Global distribution. Morocco, Algeria, Tunisia, Libya*, Egypt, and Israel (Rasmont 2014; Lhomme *et al.* 2020). Countries marked with an asterisk (*) are new records provided herein.

Species removed from the Moroccan checklist

***Anthophora* (*Paramegilla*) *inclyta* Walker, 1871**

Notes. *Anthophora inclyta* is a misunderstood species, inspection of the only remaining type material (Smith collection, NHMUK) from Sinai shows that it is conspecific with *A. superans* Walker, 1871, and this species is restricted to the East Mediterranean (TJW, *unpublished data*). A revisionary study on the subgenus *Paramegilla* Friese, 1897 will be published in the coming years (Rasmont & Wood, *in prep.*).

Tribe Bombini Latreille, 1802

Taxonomic acts and clarifications

***Bombus laesus* Morawitz, 1875**

Notes. *Bombus mocsaryi* Kriechbaumer, 1877 is currently treated as a subspecies of *Bombus laesus* Morawitz (1875) (Brasero *et al.* 2021). The Moroccan subspecies is referred to as *Bombus laesus aliceae* Cockerell 1931.

Regional distribution. Fès-Meknès; Béni Mellal-Khénifra; Marrakech-Safi; Drâa-Tafilalet; Souss-Massa
Global distribution. Palearctic (Brasero *et al.* 2021).

Tribe Epeolini Linsley & Michener, 1939

Species recently described as new to science

***Epeolus priesneri* Bogusch, 2021**
Epeolus priesneri Bogusch, 2021: 55–58. Paratype ♀; Morocco, Drâa-Tafilalet, 20 km east of Agdz; 20 Mar. 1995, M. Halada leg.; P. Bogusch det.; OLML • ♀; Morocco, Drâa-Tafilalet, Road Nr. 110 between Errachidia and Goulmina; 22 Mar. 2017; M. Snížek leg.; P. Bogusch det.; OLML.
Regional distribution. Drâa-Tafilalet.
Global distribution. Morocco, Egypt and Chad (Bogusch 2021).

Species recorded in Morocco since 2020

***Epeolus ibericus* Bogusch, 2018**
Regional distribution. Tanger-Tétouan-Al Hoceïma.
Global distribution. Morocco, Portugal and Spain (Bogusch & Hadrava 2018; Bogusch 2021).

***Epeolus intermedius* Pérez, 1884**
Regional distribution. Tanger-Tétouan-Al Hoceïma.
Global distribution. Morocco, Spain and Italy (Bogusch & Hadrava 2018; Bogusch 2021).

***Epeolus subrufescens* Saunders, 1908**
Regional distribution. Tanger-Tétouan-Al Hoceïma.
Global distribution. Morocco, Algeria, Egypt, Iran, Jordan, Libya, Sudan, Syria, Turkey and the United Arab Emirates (Bogusch & Hadrava 2018; Bogusch 2021).

Species lacking previously published records

***Epeolus variegatus* (Linnaeus, 1758)**
Material examined: MOROCCO • 1♂, 2♀; Marrakech-Safi, Oukaimeden, 1 km SE, P2030; 2600 m a.s.l.; 8 Jul. 2022; T.J. Wood leg.; T.J. Wood det.; TJWC.
Regional distribution. Marrakech-Safi.
Global distribution. Spanning most of Europe and extending into Western and Central Asia.

Tribe Eucerini Latreille, 1802

New species for Morocco

***Eucera nigra* Lepeletier, 1841**
Material examined: MOROCCO • 2♀; Oriental, Guercif, 2 km S of Debdou, 1500 m (33.9495, -3.0524); 11 May 2022; T.J. Wood leg.; A. Dorchin det.; TJWC.
Regional distribution. Oriental.
Global distribution. Moroco, Algeria and Tunisia (The species was reported in Kuhlmann *et al.* 2022 in combination with the closely related and likely heterospecific *Eucera albofasciata* Friese, 1895, and its accurate distribution boundaries are not yet determined).

Published synonymies

***Eucera* (*Eucera*) *confinis* Pérez, 1895**
Notes. The true identity of *Eucera decolorata* Gribodo, 1924 is not clear mainly because the original type material was not found. Yet, it is most likely a junior synonym of *E. confinis* (Dorchin 2023) and is treated as such here.
Regional distribution. Fès-Meknès.
Global distribution. Morocco, Portugal, Spain, Algeria and Tunisia (Kuhlmann *et al.* 2022).

***Eucera* (*Eucera*) *grisea* Fabricius, 1793**
Notes. *Eucera eucnemidea* Dours, 1873 was considered as a probable synonym of *E. grisea* by Tkalců (1984), which is indeed the senior synonym. This decision was confirmed and made formal in Dorchin (2023).
Regional distribution. Tanger-Tetouan-Al Hoceima, Rabat-Salé-Kénitra, Marrakech-Safi, Fès-Meknès
Global distribution. Morocco, Portugal, Spain, France, Italy, Malta, Algeria and Tunisia (Kuhlmann *et al.* 2022).

***Eucera* (*Eucera*) *hispana* Lepeletier, 1841**
Notes. *Eucera algeriensis* Dalla Torre, 1896 was synonymised with *E. hispana*, which is the senior synonym (Dorchin 2023).
Regional distribution. Fès-Meknès, Marrakech-Safi.
Global distribution. Morocco, France, Spain, Portugal and Algeria (Kuhlmann *et al.* 2022)

***Eucera* (*Synhalonia*) *obscura* (Brullé, 1833)**
Notes. *Eucera lucasi* (Gribodo, 1893) was synonymised with *E. obscura*, which is the senior synonym (Dorchin 2023).
Regional distribution. Fès-Meknès, Marrakech-Safi, Drâa-Tafilalet, Guelmim-Oued Noun.
Global distribution. Morocco, Greece, Turkey, Israel & Palestine, Egypt, Libya, Algeria and Tunisia (Kuhlmann *et al.* 2022; Skaou *et al.* 2025).

***Eucera* (*Synhalonia*) *rufa* (Lepeletier, 1841)**
Notes. *Eucera alternans* Brullé, 1833 was synonymised with *E. rufa* under the principle of name stability, despite the former being the senior synonym (Dorchin 2023).
Regional distribution. Rabat-Salé-Kénitra, Marrakech-Safi, Souss-Massa.
Global distribution. Morocco, Portugal, Spain, France, Croatia, Ukraine, Moldova, Bulgaria, Greece, Turkey, Jordan, Israel & Palestine, Egypt, Libya, Algeria, Tunisia and Malta (Kuhlmann *et al.* 2022) and Iran (Ascher & Pickering 2025).

***Tetralonia nigrifacies* Dours, 1873**
Notes. *Tetralonia nigrifacies* is the valid name for the species formerly known as *Eucera commixta* Dalla Torre & Friese, 1895, the latter being a junior synonym. The validity of *Tetralonia nigrifacies* follows the reestablishment of the genus *Tetralonia* Spinola, 1838.
Regional distribution. Fès-Meknès, Rabat-Salé-Kénitra, Béni Mellal-Khénifra, Marrakech-Safi.
Global distribution. Morocco and Algeria (Dorchin 2023).

Taxonomic acts and clarifications

***Tetralonia* Spinola, 1838**
Notes. *Tetralonia* was reestablished as a valid genus (Dorchin 2023 based on Freitas *et al.* 2023), such that all species affiliated to this taxon and previously placed in a subgenus *Tetralonia* of the genus *Eucera* Scopoli, 1770 (Dorchin *et al.* 2018) are reversed to their previous combination under *Tetralonia*.

***Eucera* (*Synhalonia*) *ruficollis* (Brullé, 1833)**
Notes. *Eucera ruficollis* is the valid name for the species previously referred to as *E. alternans*. Dorchin (2023),

based on revision of type material in MNHN found that this latter name is best treated under the name *E. rufa* (Lepeletier, 1841).
Regional distribution. Rabat-Salé-Kénitra; Marrakech-Safi.

Species removed from the Moroccan checklist

Eucera (*Eucera*) *hispaliensis* Pérez, 1902

Notes. *Eucera hispaliensis* Pérez, 1902 is a junior synonym of *E. longicornis* (Dorchin 2023), a species that is probably absent from Morocco and North Africa in general. The report of this species from Morocco in Lhomme *et al*. (2020) is probably the result of misidentification of some other related species, and we therefore remove it from the Moroccan list.

Eucera (*Eucera*) *punctatissima* Pérez, 1895

Notes. This name was associated for many years with another, unrelated sympatric species, *Eucera impressiventris* Pérez, 1895. *Eucera punctatissima* is closely related and reminiscent of a common Moroccan species, *Eucera confinis*, but the species concepts are poorly understood in the female sex. As currently understood, this species is known from both Algeria and Tunisia, but so far not from Morocco (A. Dorchin, personal data).

Tetralonia iberica Dusmet y Alonso, 1926

Notes. This species is probably endemic to the Iberian peninsula, and its occurrence in Morocco would require further revision to establish species concepts and identities. We therefore remove it from the Moroccan list.

Species lacking previously published records

Eucera (*Synhalonia*) *andresi* (Alfken, 1926)

Material examined: MOROCCO • 1♀; Fès-Meknès, Boulemane, R503, 7 km SE of Boulemane; 1900 m a.s.l.; 22 May 2022; T.J. Wood leg.; A. Dorchin det.; TJWC • 1♀; Fès-Meknès, Ifrane, P7231, 1 km E of Lac Hachlaf; 1700 m a.s.l.; 24 May 2022; T.J. Wood. leg.; A. Dorchin det.; TJWC.
Regional distribution. Tanger-Tetouan-Al Hoceima, Oriental, Fès-Meknès, Marrakech-Safi, Drâa-Tafilalet.

Eucera (*Hetereucera*) *atricornis* Fabricius, 1793

Material examined: MOROCCO • 1♂; Marrakech-Safi, Safi (32.25871, -9.23867); 9 Apr. 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 4♂, 4♀; Marrakech-Safi, Safi (32.26251, -9.22661); 1 May 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 2♀; Marrakech-Safi, Safi (32.26251, -9.22661); 13 May 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 2♂, 3♀; Marrakech-Safi, Safi (32.26251, -9.22661); 29 Apr. 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 5♂, 3♀; Marrakech-Safi, Safi (32.26251, -9.22661); 30 Apr. 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 1♂; Marrakech-Safi, Oukaimeden, P20340 (31.1953, -7.8536); 8 Jul. 2022; G. Ghisbain leg.; A. Dorchin det.; UMONS • 1♂, 2♀; Marrakech-Safi, Tizi n'Tichka, source Tichka (31.2904, -7.3828); 9 Jul. 2022; G. Ghisbain leg.; A. Dorchin det.; UMONS (Figure 6).
Regional distribution. Marrakech-Safi, Fès-Meknès.

Eucera (*Synhalonia*) *brachycera* (Gribodo, 1893)

Material examined: MOROCCO • 1♂; Marrakech-Safi, Safi (32.27108, -9.19565); 1 Mar. 2023; A. El Karmy leg.; A. Dorchin det.; ASEC.
Regional distribution. Marrakech-Safi, Guelmim-Oued Noun.

Eucera (*Hetereucera*) *colaris* Dours, 1873

Material examined: MOROCCO • 1♀; Marrakech-Safi, Safi (32.26251, -9.22661); 29 Apr. 2023; A. Sentil leg.; A. Dorchin det.; ASEC.
Notes. Reported as *Eucera collaris* in Lhomme *et al.* (2020). The original species name is *colaris* (with a single 'l') as given above, this name was never formally amended despite being modified by later authors.
Regional distribution. Marrakech-Safi; Souss-Massa; Drâa-Tafilalet; Fès-Meknès; Béni Mellal-Khénifra.

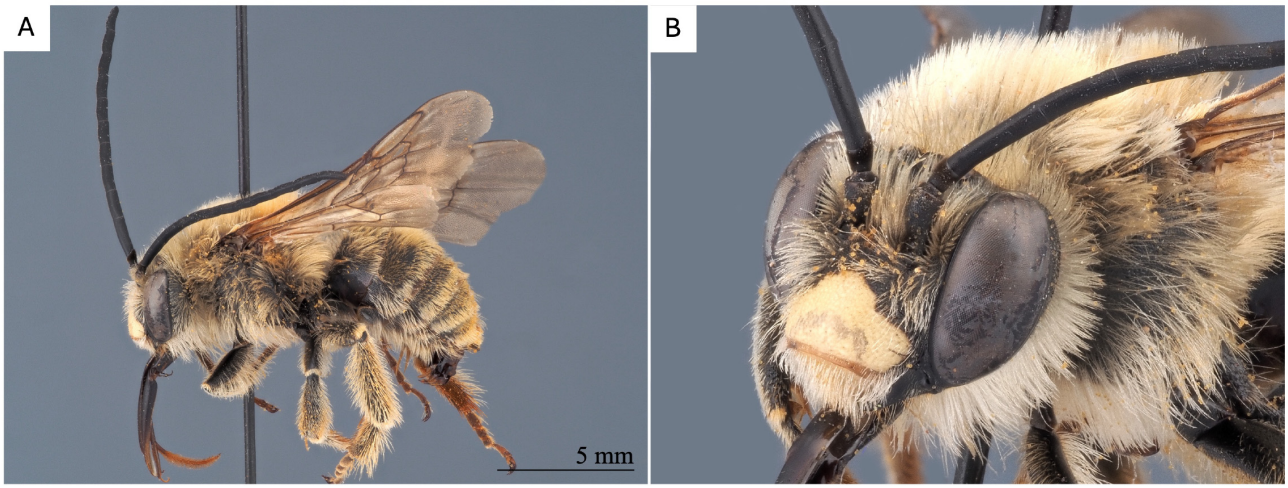

FIGURE 6. A. *Eucera* (*Hetereucera*) *atricornis* Fabricius, 1793 male, habitus in lateral view. The species was reported from Fès-Meknès in Lhomme *et al.* (2020) but without formally published records. **B.** *Eucera atricornis* male, head in oblique view. Pictures by Paolo Rosa.

***Eucera* (*Eucera*) *dimidiata* Brullé, 1833**

Material examined: MOROCCO • 1♂; Marrakech-Safi, Safi (32.25871, -9.23867); 18 Feb. 2024; A. Sentil leg.; A. Dorchin det.; ASEC • 2♀; Marrakech-Safi, Safi (32.25871, -9.23867); 20 Apr. 2024; A. Sentil leg.; A. Dorchin det.; ASEC • 44♂, 1♀; Marrakech-Safi, Safi (32.27108, -9.19565); 1 Mar. 2023; A. El Karmy leg.; A. Dorchin det.; ASEC • 9♂; Marrakech-Safi, Safi (32.27108, -9.19565); 16 Mar. 2023; A. El Karmy leg.; A. Dorchin det.; ASEC • 1♂; Marrakech-Safi, Safi (32.27108, -9.19565); 19 Mar. 2024; A. El Karmy leg.; A. Dorchin det.; ASEC • 12♂; Marrakech-Safi, Safi (32.27108, -9.19565); 28 Feb. 2023; A. El Karmy leg.; A. Dorchin det.; ASEC • 1♂; Marrakech-Safi, Safi (32.27108, -9.19565); 31 Mar. 2023; A. El Karmy leg.; A. Dorchin det.; ASEC • 14♀; Marrakech-Safi, Safi (32.27356, -9.23343); 18 Mar. 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 1♀; Marrakech-Safi, Safi (32.27356, -9.23343); 19 Mar. 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 1♀; Marrakech-Safi, Safi (32.27356, -9.23343); 4 Mar. 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 1♀; Marrakech-Safi, Safi (32.29425, -9.21790); 1 Apr. 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 1♀; Marrakech-Safi, Safi (32.29807, -9.19570); 25 Feb. 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 1♀; Guelmim-Oued Noun, Guelmim, Fask, N12 (28.9236, -9.7836); 7 Apr. 2024; D. Baiocchi leg.; M. Selis det.; MSVI.

Regional distribution. Drâa-Tafilalet, Guelmim-Oued Noun, Marrakech-Safi, Fès-Meknès.

***Eucera* (*Hetereucera*) *elongatula* Vachal, 1907**

Material examined: MOROCCO • 3♀; Marrakech-Safi, Safi (32.25871, -9.23867); 15 Apr. 2023; A. Sentil leg.; ASEC • 13♂; Marrakech-Safi, Safi (32.25871, -9.23867); 17 Mar. 2024; A. Sentil leg.; ASEC • 6♂; Marrakech-Safi, Safi (32.25871, -9.23867); 18 Feb. 2024; A. Sentil leg.; ASEC • 4♂; Marrakech-Safi, Safi (32.25871, -9.23867); 23 Mar. 2024; A. Sentil leg.; ASEC • 9♀; Marrakech-Safi, Safi (32.25871, -9.23867); 9 Apr. 2023; A. Sentil leg.; ASEC • 1♀; Marrakech-Safi, Safi (32.26251, -9.22661); 30 Apr. 2023; A. Sentil leg.; ASEC • 6♂, 1♀; Marrakech-Safi, Safi (32.26882, -9.23230); 19 Feb. 2023; A. Sentil leg.; ASEC • 7♂; Marrakech-Safi, Safi (32.26882, -9.23230); 21 Feb. 2023; A. Sentil leg.; ASEC • 3♂; Marrakech-Safi, Safi (32.26882, -9.23230); 4 Mar. 2023; A. Sentil leg.; ASEC • 3♂, 1♀; Marrakech-Safi, Safi (32.27108, -9.19565); 1 Mar. 2023; A. El Karmy leg.; ASEC • 2♀; Marrakech-Safi, Safi (32.27108, -9.19565); 16 Mar. 2023; A. El Karmy leg.; ASEC • 1♀; Marrakech-Safi, Safi (32.27108, -9.19565); 17 Mar. 2023; A. El Karmy leg.; ASEC • 13♂; Marrakech-Safi, Safi (32.27108, -9.19565); 19 Mar. 2024; A. El Karmy leg.; ASEC • 5♀; Marrakech-Safi, Safi (32.27108, -9.19565); 31 Mar. 2023; A. Sentil leg.; ASEC • 1♂; Marrakech-Safi, Safi (32.27285, -9.23310); 20 Apr. 2024; A. Sentil leg.; ASEC • 13♂; Marrakech-Safi, Safi (32.27285, -9.23310); 23 Mar. 2024; A. Sentil leg.; ASEC • 5♂; Marrakech-Safi, Safi (32.27285, -9.23310); 7 Apr. 2024; A. Sentil leg.; ASEC • 1♂; Marrakech-Safi, Safi (32.27356, -9.23343); 18 Feb. 2024; A. Sentil leg.; ASEC • 8♂, 3♀; Marrakech-Safi, Safi (32.27356, -9.23343); 18 Mar. 2023; A. Sentil leg.; ASEC • 2♀; Marrakech-Safi, Safi (32.27356, -9.23343); 19 Mar. 2023; A. Sentil leg.; ASEC • 1♂, 3♀; Marrakech-Safi, Safi (32.27356, -9.23343); 4

Mar. 2023; A. Sentil leg.; ASEC • 2♀; Marrakech-Safi, Safi (32.29425, -9.21790); 1 Apr. 2023; A. Sentil leg.; ASEC • 1♂, 14♀; Marrakech-Safi, Safi (32.31553, -9.23292); 28 Mar. 2023; A. Sentil leg.; ASEC • 1♂; Marrakech-Safi, Safi (32.31553, -9.23292); 3 Apr. 2023; A. Sentil leg.; ASEC • 3♀; Marrakech-Safi, Safi (32.31553, -9.23292); 3 Apr. 2023; A. Sentil leg.; ASEC • 3♂, 6♀; Marrakech-Safi, Safi (34.26882, -9.23216); 4 Mar. 2023; A. Sentil leg.; ASEC ; all specimens det. A. Dorchin
Regional distribution. Drâa-Tafilalet, Guelmim-Oued, Marrakech-Safi.

***Eucera* (*Synhalonia*) *metallescens* (Morawitz, 1888)**
Material examined: MOROCCO • 8♀; Drâa-Tafilalet, Tazenakht, 1 km W Anezal; 1600 m a.s.l.; 15 Mar. 2022; T.J. Wood leg.; A. Dorchin det.; ADC • 3♂; Guelmim-Oued Noun, Guelmim, Asrir, 1 km W; 20 Mar. 2022; T.J. Wood leg.; A. Dochin det.; ADC.
Regional distribution. Souss-Massa, Guelmim-Oued Noun.

***Eucera* (*Eucera*) *nigrilabris* Lepeletier, 1841**
Material examined: MOROCCO • 2♂; Marrakech-Safi, Safi (32.25871, -9.23867); 17 Mar. 2024; A. Sentil leg.; A. Dorchin det.; ASEC • 3♂; Marrakech-Safi, Safi (32.25871, -9.23867); 18 Feb. 2024; A. Sentil leg.; A. Dorchin det.; ASEC • 2♂; Marrakech-Safi, Safi (32.26882, -9.23230); 19 Feb. 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 21♂; Marrakech-Safi, Safi (32.27108, -9.19565); 1 Mar. 2023; A. El Karmy leg.; A. Dorchin det.; ASEC • 11♂; Marrakech-Safi, Safi (32.27108, -9.19565); 16 Mar. 2023; A. El Karmy leg.; A. Dorchin det.; ASEC • 4♂; Marrakech-Safi, Safi (32.27108, -9.19565); 17 Mar. 2023; A. El Karmy leg.; A. Dorchin det.; ASEC • 4♂; Marrakech-Safi, Safi (32.27108, -9.19565); 28 Feb. 2023; A. El Karmy leg.; A. Dorchin det.; ASEC • 6♂; Marrakech-Safi, Safi (32.29807, -9.19570); 25 Feb. 2023; A. Sentil leg.; A. Dorchin det.; ASEC.
Regional distribution. Oriental, Fès-Meknès, Marrakech-Safi.

***Eucera* (*Hetereucera*) *notata* Lepeletier, 1841**
Material examined: MOROCCO • 2♀; Marrakech-Safi, Safi (32.25871, -9.23867); 15 Apr. 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 13♂; Marrakech-Safi, Safi (32.25871, -9.23867); 17 Mar. 2024; A. Sentil leg.; A. Dorchin det.; ASEC • 3♂; Marrakech-Safi, Safi (32.25871, -9.23867); 18 Feb. 2024; A. Sentil leg.; A. Dorchin det.; ASEC • 2♂; Marrakech-Safi, Safi (32.25871, -9.23867); 23 Mar. 2024; A. Sentil leg.; A. Dorchin det.; ASEC • 4♂; Marrakech-Safi, Safi (32.25871, -9.23867); 8 Apr. 2024; A. Sentil leg.; A. Dorchin det.; ASEC • 2♀; Marrakech-Safi, Safi (32.25871, -9.23867); 9 Apr. 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 2♂; Marrakech-Safi, Safi (32.26882, -9.23230); 19 Feb. 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 2♂; Marrakech-Safi, Safi (32.29425, -9.21790); 1 Apr. 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 1♀; Marrakech-Safi, Safi (32.33568, -9.21667); 23 Apr. 2023; A. Sentil leg.; A. Dorchin det.; ASEC.
Regional distribution. Fès-Meknès, Rabat-Salé-Kénitra, Marrakech-Safi, Souss-Massa.

***Eucera* (*Heteucera*) *oraniensis* Lepeletier, 1841**
Material examined: MOROCCO • 1♀; Oriental, Guercif, 8 km E of Lamrija; 850 m a.s.l.; 11 May 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 1♀; Fès-Meknès, Taza, P5425, 1.5 km S Taza Airport; 600 m a.s.l.; 12 May 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 1♀; Fès-Meknès, Taza, P5425, 3 km N of Galdamane; 780 m a.s.l.; 12 May 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 1♀; Souss-Massa, Tizi n'Test (30.865, -8.379); 16-17 Apr. 2024; D. Baiocchi leg.; M. Selis det.; MSVI.
Regional distribution. Drâa-Tafilalet, Marrakech-Safi, Oriental, Rabat-Salé-Kénitra, Souss-Massa, Tanger-Tétouan-Al Hoceima.

***Tetralonia dentata* (Germar, 1839)**
Material examined: MOROCCO • 12♂, 6♀; Marrakech-Safi, Safi (32.26251, -9.22661); 1 May 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 2♂, 32♀; Marrakech-Safi, Safi (32.26251, -9.22661); 13 May 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 10♂, 2♀; Marrakech-Safi, Safi (32.26251, -9.22661); 29 Apr. 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 20♂, 3♀; Marrakech-Safi, Safi (32.26251, -9.22661); 30 Apr. 2023; A. Sentil leg.; A. Dorchin det.; ASEC • 2♂; Marrakech-Safi, 1 km E. of Oukaimeden (31.2901, -7.8423); 11 Jul. 2022; G. Ghisbain leg.; A. Dorchin det.; UMONS • 1♀; Marrakech-Safi, Tizi n'Tichka, source Tichka (31.2904, -7.3828); 9 Jul. 2022; G. Ghisbain leg.; A. Dorchin det.; UMONS

Regional distribution. Tanger-Tetouan-Al Hoceima, Rabat-Salé-Kénitra, Fès-Meknès, Drâa-Tafilalet, Marrakech-Safi and Souss-Massa.

***Tetralonia nigriceps* (Morawitz, 1894)**

Material examined: MOROCCO • 1♂; Marrakech-Safi, Oukaimeden, 1 km SE, P2030; 2600 m a.s.l.; T.J. Wood leg.; T.J. Wood det.; TJWC • 1♂; Marrakech-Safi, Tizi n'Tichka, Source de Tichka; 2200 m a.s.l.; 9 Jul. 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 5♀; Marrakech-Safi, Oukaimeden, 1 km E, steppe; 2500 m a.s.l.; 11 Jul. 2022; T.J. Wood det.; T.J. Wood leg.; A. Dorchin det.; ADC/TJWC • 5♂, 3♀; Drâa-Tafilalet, Aguelmouss, N9; 2050 m a.s.l.; 13 Jul. 2022; T.J. Wood leg.; A. Dorchin det.; ADC/TJWC.

Regional distribution. Drâa-Tafilalet, Marrakech-Safi.

Tribe Melectini Westwood, 1839

Species recently described as new to science

***Thyreus rasmonti* Wood, 2023**

Thyreus rasmonti Wood, 2023c: 16–24. Holotype ♂; Morocco, Sous-Massa, 5 km SE Tanalt; 13 Mar. 2022; T.J. Wood leg.; RMNH.

New material examined. ALGERIA • 1♂; East Algeria: Collo; 14 Jun. 1944; K.M. Guichard leg.; T.J. Wood det.; NHMUK.

Notes. The male reported here greatly expands the range of the species to north-eastern Algeria. The specimen was determined as *Thyreus hirtus* by Lieftinck in 1967 and reported as such in Liefitnck (1968). Based on males, both *T. hirtus* (Wood 2023c) and *T. rasmonti* appear to be present in Mediterranean Algeria; further study is required to determine the range limits of these species in North Africa.

Regional distribution. Sous-Massa.

Global distribution. Morocco and Algeria (Wood 2023c).

Species recorded in Morocco since 2020

***Thyreus mauretaniensis* (Strand, 1911)**

Regional distribution. Fès-Meknès, Sous-Massa.

Global distribution. Morocco and Algeria (Lieftinck 1968; Wood 2023c).

Species removed from the Moroccan checklist

***Thyreus hirtus* (de Beaumont, 1940)**

Notes. The genetic analysis revealed that the European and Moroccan populations of *Thyreus hirtus* form two distinct species, with the latter being described as *T. rasmonti* Wood, 2023. *Thyreus hirtus* has no supporting records in Morocco (Wood 2023c), and hence is removed from the checklist.

Tribe Nomadini Latreille, 1802

Species recorded in Morocco since 2020

***Nomada* (*Gestamen*) *judaica* Schwarz & Smit, 2018**

Regional distribution. Drâa-Tafilalet.

Global distribution. Morocco, Algeria, Tunisia, Israel, Jordan and Turkey (Schwarz & Smit 2018; Wood 2023c).

Nomada (*Collicula*) *stigma* **Fabricius, 1804**
Regional distribution. Tanger-Tetouan-Al Hoceima.
Global distribution. Morocco, Algeria, Tunisia, all Europe, Turkey, Kazakhstan, Kyrgyzstan, Tajikistan and Russia east to Siberia (Smit 2018; Samih *et al.* 2024).

New species for Morocco

Nomada (*Nomada*) *marshamella* **(Kirby, 1802)**
Material examined: MOROCCO • 2♂; Souss-Massa, Tizi n'Test (30.865, -8.379); 16-17 Apr. 2024; D. Baiocchi leg.; M. Selis det.; MSVI.
Regional distribution. Souss-Massa.
Global distribution. Morocco, Europe, Tunisia and Turkey (Smit 2018).

Nomada (*Nomada*) *micronycha* **Pérez, 1902**
Material examined: MOROCCO • 1♂; Fès-Meknès, Tizin Treten, Irfane env. (33.4530, -5.0398); 13 May 2019; M. Mikát leg.; J. Straka det.; JSPC • 1♀; Beni Mellal-Khenifra, Aguelmouss, Haut Atlas, ma06 (31.2660, -7.4100); 13 Jun. 2014; Ch. Schmid-Egger leg.; J. Straka det.; JSPC.
Notes. The distribution of this species is uncertain. It was published without a stated type locality and the locality label of the type specimens is "Taniet" (Schwarz 1976). While it was likely from North Africa, no specific country had been confirmed. Here we present the first records from Morocco.
Regional distribution. Fès-Meknès, Beni Mellal-Khenifra.
Global distribution. Morocco and Algeria (Ascher & Pickering 2025).

Nomada (*Nomada*) *mutica* **Morawitz, 1872**
Material examined: MOROCCO • 1♂; Rabat-Salé-Kénitra, Al Irfane, Rabat env. (33.9771, -6.8602); 14 Mar. 2020; P. Lhomme leg.; J. Straka det.; JSPC.
Regional distribution. Rabat-Salé-Kénitra.
Global distribution. West, Central, East and Southeast Europe and Middle East (Smit 2018).

Nomada (*Nomada*) *subcornuta* **(Kirby, 1802)**
Material examined: MOROCCO • 1♀; Fès-Meknès, Laanoucer (33.6234, -4.9001); 03 May 2018; P. Lhomme & A. Sentil leg.; J. Straka det.• 2♀; Fès-Meknès, Ahermoumou, P5407, immediately NW of Kassioua (33.8945, -4.42907); 900 m a.s.l; 15 May 2022; T.J. Wood leg.; J. Straka det.; TJWC• 1♂; Fès-Meknès, Azrou, P7311, 10 km S Ain Leuh, (33.2220, -5.3411); 1750 m a.s.l; 17 May 2022; T.J. Wood leg.; J. Straka det.; TJWC • 1♂, 1♀; Marrakech-Safi, Tinmel env., near river, Al Haouz province (30.9811, -8.2251); 30 Mar. 2019; D. Benda leg.; J. Straka det.; DBC• 1♀; Marrakech-Safi, Oikaimeden (31.2091, -7.8423); 11 Jul. 2022; T.J. Wood leg.; J. Straka det.; TJWC • 1♀; Drâa-Tafilalet, Ouarzazate, P1505, 2 km S Amerzgane (31.0248, -7.2223); 1300 m a.s.l; 13 Apr. 2022; T.J. Wood leg.; J. Straka det.; TJWC • 1♀; Drâa-Tafilalet, Ouarzazate, N9, Ighrem N'Ougdal (31.2410, -7.4135); 2000 m a.s.l; 18 Apr. 2022; T.J. Wood leg.; J. Straka det.; TJWC • 1♀; Drâa-Tafilalet, Ouarzazate, P1505, 2.5 km S Amerzgane (31.0213, -7.2279); 1300 m a.s.l; 18 Apr. 2022; T.J. Wood leg.; J. Straka det.; TJWC.
Regional distribution. Drâa-Tafilalet, Fès-Meknès, Marrakech-Safi.
Global distribution. Widely distributed species, ranging from Great Britain in the west to Tajikistan in the east, and from Central Europe in the north to North Africa in the south (J. Straka, personal data).

Species lacking previously published records

Nomada (*Gestamen*) *carnifex* **Mocsáry, 1883**
Material examined: MOROCCO • 1♀; Oriental, Guercif, Debdou, 2 km S of Debdou; 1500 m a.s.l.; 11 May 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 1♀; Fès-Meknès, Ahermoumou, P5407, immediately NW of Kassioua; 900 m a.s.l.; 15 May 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 1♀; Fès-Meknès, Taza, P5420, 10 km NE Ctre

Commune Bab Boudir; 1350 m a.s.l.; 16 May 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 1♀; Fès-Meknès, Taza, R507, Site Récréatif Vallée Des Oiseaux; 1200 m a.s.l.; 16 May 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 1♀; Fès-Meknès, Tiguelmamine, Col du Zad; 2100 m a.s.l.; 21 May 2022; T.J. Wood leg.; T.J. Wood det.; JSPC • 1♀; Fès-Meknès, Ifrane, P7231, 2 km NE of Michlifen; 1900 m a.s.l.; 24 May 2022; T.J. Wood leg.; T.J. Wood det.; TJWC.
Regional distribution. Oriental, Fès-Meknès; Béni Mellal-Khénifra; Marrakech-Safi; Souss-Massa; Guelmim-Oued Noun.

***Nomada* (*Mininomada*) *coronata* Pérez, 1895**
Material examined: MOROCCO • 1♂; Fès-Meknès, Aknoul, R510, 500 m S of Tizi Nador; 1300 m a.s.l.; 14 May 2022; T.J. Wood leg.; J. Straka det.; TJWC.
Regional distribution. Tanger-Tetouan-Al Hoceima, Fès-Meknès, Rabat-Salé-Kénitra, Marrakech-Safi, Souss-Massa.

***Nomada* (*Gestamen*) *fallax* Pérez, 1913**
Material examined: MOROCCO • 1♂; Fès-Meknès, Azrou, P7217, 10 km S of Azrou; 1800 m a.s.l.; 18 May 2022; T.J. Wood leg.; J. Straka det.; TJWC • 1♀; Fès-Meknès, Boulemane, R503, 7 km SE of Boulemane; 1900 m a.s.l.; 22 May 2022; T.J. Wood leg.; J. Straka det.; JSPC • 2♂; Fès-Meknès, Ifrane, P7231, 2 km NE of Michlifen; 1900 m a.s.l.; 24 May 2022; T.J. Wood leg.; J. Straka det.; JSPC/TJWC.
Regional distribution. Tanger-Tetouan-Al Hoceima, Oriental, Fès-Meknès, Rabat-Salé-Kénitra, Casablanca-Settat, Marrakech-Safi.

***Nomada* (*Nomada*) *flavoguttata* (Kirby, 1802)**
Material examined: MOROCCO • 1♂; Souss-Massa, Tafraoute, Iguissle (3 km E Tanalt); 1500 m a.s.l.; 21 Mar. 2022; leg. T.J. Wood; J. Straka det.; JSPC.
Regional distribution. Tanger-Tetouan-Al Hoceima, Oriental, Fès-Meknès, Béni Mellal-Khénifra, Marrakech-Safi, Souss-Massa.

***Nomada* (*Collicula*) *integra* Brullé, 1833**
Material examined: MOROCCO • 1♂; Fès-Meknès, Taza, R507, immediately W of Ras El Ma; 1000 m a.s.l.; 10 May 2022; T.J. Wood leg.; J. Straka det.; TJWC • 4♀; Oriental, Guercif, Debdou, 2 km S of Debdou; 1500 m a.s.l.; 11 May 2022; T.J. Wood leg.; T.J. Wood det.; JSPC/TJWC • 1♀; Fès-Meknès, Ahermoumou, P5407, immediately NW of Kassioua; 900 m a.s.l.; 15 May 2024; T.J. Wood leg.; J. Straka det.; TJWC.
Regional distribution. Tetouan-Al Hoceima, Fès-Meknès, Rabat-Salé-Kénitra, Marrakech-Safi, Souss-Massa, Oriental.

***Nomada* (*Mininomada*) *nigrovaria* Pérez, 1895**
Material examined: MOROCCO • 1♂, 1♀; Fès-Meknès, Taza, R507, 2 km N of Ras El Ma; 750 m a.s.l.; 10 May 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 1♀; Fès-Meknès, Taza, R507, immediately W of Ras El Ma; 1000 m a.s.l.; 10 May 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 1♀; Fès-Meknès, Ahermoumou, P5407, immediately NW of Kassioua; 900 m a.s.l.; 15 May 2022; T.J. Wood leg.; T.J. Wood det.; TJWC.
Regional distribution. Fès-Meknès, Souss-Massa.

***Nomada* (*Holonomada*) *nobilis* Herrich-Schäffer, 1839**
Material examined: MOROCCO • 1♂, 1♀; Fès-Meknès, Taza, R507, 2 km N of Ras El Ma; 750 m a.s.l.; 10 May 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 1♀; Fès-Meknès, Taza, R507, immediately W of Ras El Ma; 1000 m a.s.l.; 10 May 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 1♀; Fès-Meknès, Ahermoumou, P5407, immediately NW of Kassioua; 900 m a.s.l.; 15 May 2022; T.J. Wood leg.; T.J. Wood det.; TJWC.
Regional distribution. Tanger-Tetouan-Al Hoceima; Oriental; Fès-Meknès; Rabat-Salé-Kénitra; Casablanca-Settat; Marrakech-Safi, Souss-Massa, Guelmim-Oued Noun.

***Nomada* (*Gestamen*) *panurginoides* Saunders, 1908**
Material examined: MOROCCO • 1♀; Drâa-Tafilalet, Ouarzazate, P1506, Telouet, Adaha; 1700 m a.s.l.; 18 Apr. 2022; T.J. Wood leg.; J. Straka det.; JSPC • 1♂, 3♀; 13 May 2022; T.J. Wood leg.; J. Straka det.; JSPC/TJWC • 1♂; Drâa-Tafilalet, Midelt, R503, 7 km NE of Ait Ben Yacoub; 1600 m a.s.l.; 21 May 2022; T.J. Wood leg.; J. Straka det.; JSPC.
Regional distribution. Tanger-Tetouan-Al Hoceima, Oriental, Fès-Meknès, Casablanca-Settat, Marrakech-Safi, Drâa-Tafilalet.

***Nomada* (*Holonomada*) *pectoralis* Morawitz, 1877**
Material examined: MOROCCO • 1♀; Marrakech-Safi, Oukaimeden, 1 km E, steppe; 2500 m a.s.l.; 11 Jul. 2022; T.J. Wood leg.; T.J. Wood det.; TJWC.
Regional distribution. Fès-Meknès, Marrakech-Safi.

Family COLLETIDAE Lepeletier, 1841

Tribe Hylaeini Viereck, 1916

Published synonymies

***Hylaeus* (*Prosopis*) *gibbus* Saunders, 1850**
Notes. *Hylaeus praenotatus* Förster, 1871 was synonymised with *Hylaeus gibbus*, which is the senior synonym (Le Divelec 2022).
Regional distribution. Fès-Meknès.
Global distribution. Palearctic (Lhomme *et al.* 2020)

Family HALICTIDAE Thomson, 1869

Tribe Halictini Thomson, 1869

Notes. The classification of Halictini at the generic and subgeneric levels remains unresolved (Ghisbain & Rosa *et al.* 2023). Here, we follow the view that *Seladonia* is a distinct genus closely related to *Halictus* (Danforth *et al.* 1999). We also retain the subgeneric classification of *Halictus* and *Seladonia* proposed by Pesenko (2004), recognizing that it requires further molecular validation. The subgeneric classification of *Lasioglossum* is even more complex, due to significant discrepancies between traditional systems and molecular evidence (Gibbs *et al.* 2012, 2013). In this study, we follow the subgeneric framework used by Kuhlmann *et al.* (2022), which is based on the findings of Gibbs *et al.* (2013).

Species recorded in Morocco since 2020

***Lasioglossum* (*Biennilaeus*) *marginatum* (Brullé, 1833)**
Regional distribution. Fès-Meknès.
Global distribution. Morocco, Europe to southern Russia, Turkey, the Levant and elsewhere to the Himalayas (Kuhlmann *et al.* 2014; Pauly 2016; Wood 2023c)

***Lasioglossum* (*Hemihalictus*) *puncticolle* (Morawitz, 1872)**
Regional distribution. Fès-Meknès.
Global distribution. Morocco, Algeria, Europe to the Ural Mountains and Iran (Kuhlmann *et al.* 2014; Pauly 2016; Wood 2023c).

***Sphecodes africanus* Lepeletier, 1841**
Regional distribution. Tanger-Tétouan-Al Hoceima, Fès-Meknès, Rabat-Salé-Kénitra.
Global distribution. Morocco, France (Corsica), Italy (Sardinia) and Spain (Straka *et al.* in review).

***Sphecodes algeriensis* Alfken, 1914**
Notes. This species was previously considered to be a subspecies of *Sphecodes alternatus* Smith, 1853. As a separate species, it was recorded in several current publications (Ghisbain & Rosa *et al*. 2023; Reverté & Miličić *et al.* 2023). Straka *et al.* (in review) summarised the distribution of this species and its main diagnostic characters.
Regional distribution. Guelmim-Oued Noun, Draâ-Tafilalet, Fès-Meknès.
Global distribution. Morocco, Tunisia, Portugal and Spain (Straka *et al.* in review).

***Sphecodes majalis* Pérez, 1903**
Regional distribution. Béni Mellal-Khenifra.
Global distribution. Morocco, Algeria, Europe to Russia, the Caucasus, Turkey, Jordan, and Iran (Warncke 1992; Bogusch & Straka 2012; Astafurova *et al.* 2019; Wood 2023c)

***Sphecodes pinguiculus* Pérez, 1903**
Regional distribution. Drâa-Tafilalet.
Global distribution. Morocco, Cape Verde, Algeria, Tunisia, Southern and Central Europe to Russia, Turkey, the Levant, Arabian Peninsula, Central Asia, northern China and Mongolia (Warncke 1992; Bogusch & Straka 2012; Kuhlmann *et al.* 2014; Astafurova *et al.* 2019; Wood 2023c)

New species for Morocco

***Sphecodes atlanticus* Warncke, 1992**
Material examined: MOROCCO • 1♂; Guelmim-Oued Noun, SW Guelmim; 09 May 2003; M. Halada leg.; J. Straka det.; OÖLM.
Regional distribution. Guelmim-Oued Noun.
Global distribution. Morocco, Algeria, Canary Islands (Gran Canaria) (Hohmann *et al*. 1993) and the Middle East (Warncke 1992; Astafurova *et al.* 2019).

Species removed from the Moroccan checklist

***Sphecodes albilabris* (Fabricius, 1793)**
Notes. Material previously determined as *Sphecodes albilabris* (or as *Sphecodes albilabris albilabris*) from North Africa is now recognized as *S. africanus* (Straka *et al.* in review).

Tribe Nomiini Robertson, 1904

Taxonomic acts and clarifications

***Nomiapis rufiventris* (Spinola, 1838)**
Notes. Wood and Le Divelec (2022) revealed that *Nomiapis bispinosa* (Brullé, 1832) consists of three distinct taxa: *Nomiapis bispinosa* s. str., *Nomiapis rufiventris* (Spinola, 1838) and *Nomiapis paulyi* Wood & Le Divelec, 2022. Both *N. bispinosa* s. str. *and N. rufiventris* are present in Morocco.
Regional distribution. Tanger-Tétouan-Al Hoceima.
Global distribution. Morocco and Iberia to Central Asia (Wood & Le Divelec 2022).

Family MEGACHILIDAE Latreille, 1902

Tribe Anthidiini Ashmead, 1899

Species recently described as new to science

***Anthidiellum* (*Anthidiellum*) *africanum* Kasparek, 2023**

Holotype ♀; Algeria, Tébessa: Hammamet. 865 m a.s.l.; 25 Jun. 2021; R. Abdelkarim leg.; CMK (nou047).

New material examined: MOROCCO • 1♀; Marrakech-Safi, High Atlas, Taddert; 16 Jun. 2000; Brandl leg.; M. Kasparek det.; CMK • 1♂; Fès-Meknès; Mischliffen nr. Ifrane; 1900 m a.s.l.; 17 Jul. 1975; A.W. Ebmer leg.; M. Kasparek det.; CMK • 1♂; Marrakech-Safi, Ouzoud 2.5 km NE (32.0242, -6.6942); 949 m a.s.l; 07 May 2015; V. Soon leg.; M. Kasparek det.; TUZ.

Regional distribution. Marrakech-Safi, Fès-Meknès.

Global distribution. Morocco, Algeria and Tunisia (Kasparek *et al.* 2023b).

***Anthidium* (*Anthidium*) *atlaskabirense* Kasparek & Schwarz, 2020**

Anthidium atlaskabirense Kasparek & Schwarz, 2020: 399–401. Holotype ♂; Morocco, Sous-Massa, south of Tizi n'Test pass in the High Atlas Mountains; 29 Jun. 1987; M. Schwarz leg.; M. Kasparek det.; CMK.

Regional distribution. Souss-Massa.

Global distribution. Currently only known from Morocco (Kasparek & Schwarz 2020).

***Anthidium (Anthidium) tenebricosum* Kasparek nom. nov.**

Anthidium (Anthidium) nigrum Kasparek, 2024a: 185–187. Holotype ♂; Morocco, Oriental, 10 km S Bouarfa; 20 May 1995; M. Halada leg.; M. Kasparek det.; CMK.

Anthidium (Anthidium) tenebricosum Kasparek nom. nov. pro *Anthidium nigrum* Kasparek, 2024, *nom. praeoccup.*, *nec* Friese, 1897 (Figure 7).

Notes. Friese (1897) discovered a dark form of *Anthidium oblongatum* (Illiger, 1806), which he described as *Anthidium oblongatum var. nigrum* Friese, 1897. This variety was later synonymized with the nominate *A. oblongatum* by (Kasparek 2022). However, as John S. Ascher (in lit.) kindly pointed out, according to Article 45.6.4 of the International Code of Zoological Nomenclature (ICZN), a name established before 1961 using the term "variety" remains available. Consequently, *Anthidium nigrum* Kasparek, 2024 must be considered a homonym and is hereby Replaced by *Anthidium tenebricosum* Kasparek, nom. nov.

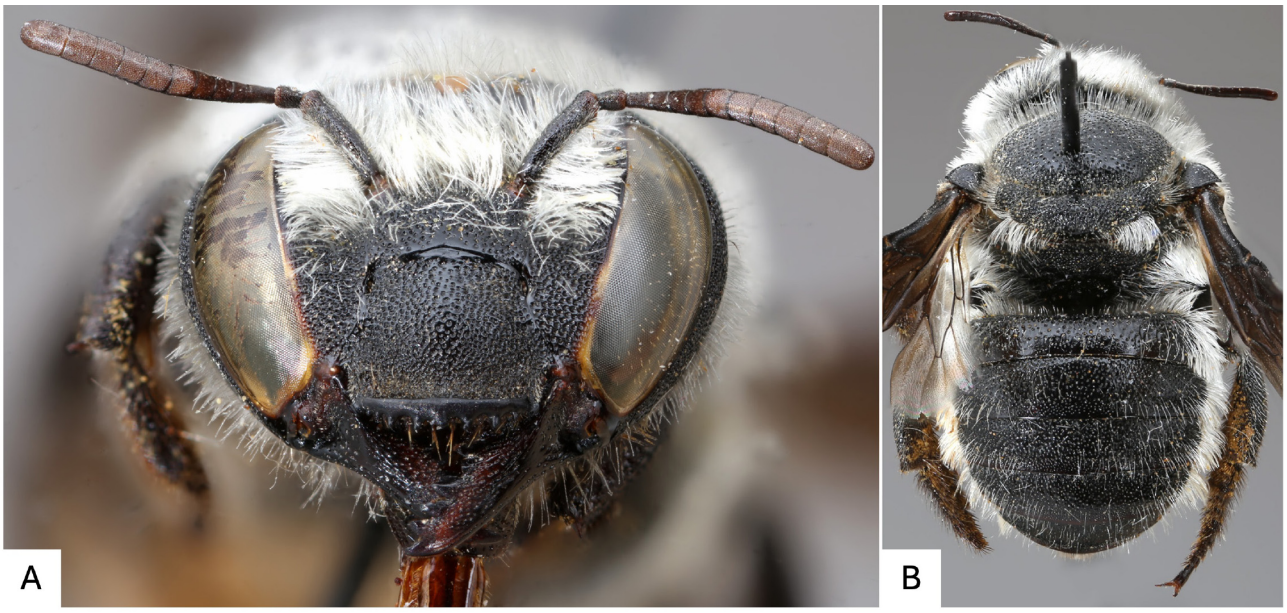

FIGURE 7. *Anthidium tenebricosum* Kasparek, nom. nov., originally described from Bouarfa in the region Oriental, Morocco, as *A. nigrum*. A. Female, face, **B.** Female, dorsal view. Pictures by Max Kasparek.

Derivatio nominis. The species epithet *tenebricosum* is derived from Latin, meaning "full of darkness" or "gloomy," and refers to the bee's unusually dark colouration. It emphasizes the species' shadowy appearance relative to its congeners.

Regional distribution. Oriental.

Global distribution. Currently only known from Morocco (Kasparek *et al.* 2024a).

Anthidium (Gulanthidium) occidentale Kasparek, 2021

Anthidium occidentale Kasparek, 2021: 498–499. Holotype ♂; Morocco, Oriental, 10 km S Bouarfa; 20 May 1995; M. Halada leg.; M. Kasparek det.; CMK.

Regional distribution. Oriental.

Global distribution. Currently only known from Morocco (Kasparek 2021).

Pseudoanthidium (*Pseudoanthidium*) *microrubrum* Kasparek, 2024

Pseudoanthidium microrubrum Kasparek, 2024a: 12–13. Holotype ♂; Morocco, Fès-Meknès, Boulemane, R503, SE of Ait Karmosse (33.2440, -4.6762); 1750 m a.s.l.; 22 May 2022; T.J. Wood leg.; M. Kasparek det.; OÖLM (Figure 8).

Regional distribution. Fès-Meknès.

Global distribution. Currently only known from Morocco (Kasparek 2024a).

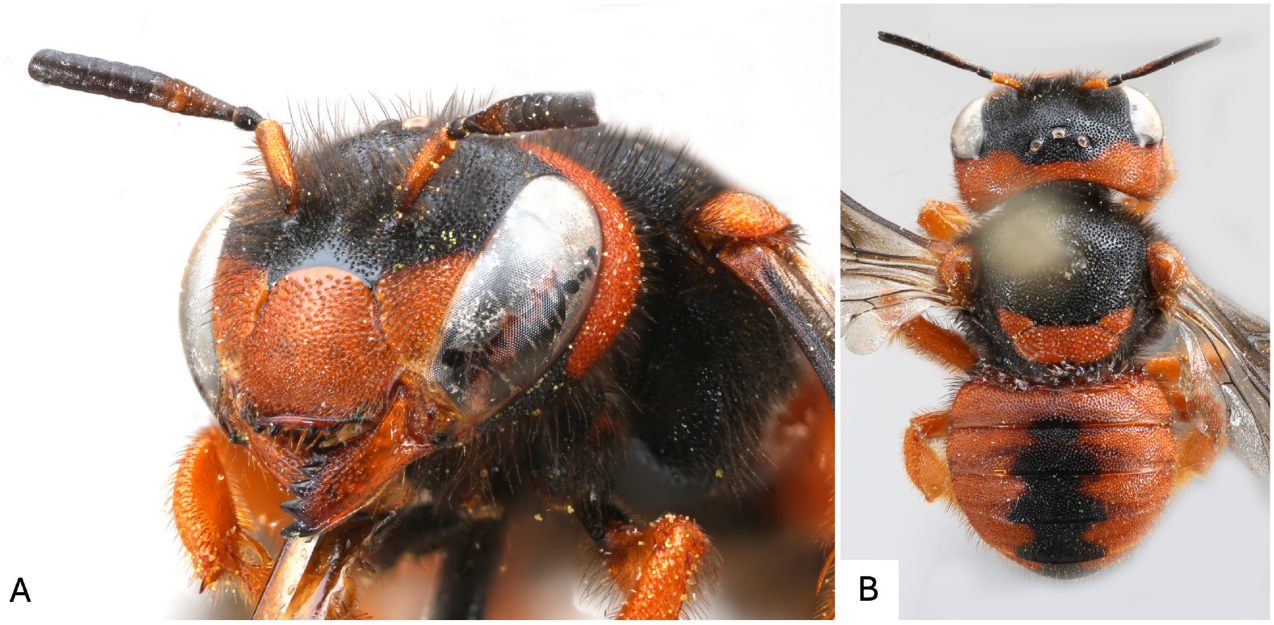

FIGURE 8. *Pseudoanthidium microrubrum* Kasparek, 2024, described from Boulemane in the Fès-Meknès region, Morocco. **A.** Female, face. **B.** B. Female, dorsal view. Pictures of a paratype by Max Kasparek.

Species recorded in Morocco since 2020

Pseudoanthidium (*Pseudoanthidium*) *ochrognathum* (Alfken, 1933)

Regional distribution. Drâa-Tafilalet.

Global distribution. Morocco, Iran, Israel, Jordan, Saudi Arabia, United Arab Emirates, Chad, Egypt, Palestine and Sudan (Kasparek *et al*. 2023a).

New species for Morocco

Anthidium (*Anthidium*) *bischoffi* Mavromoustakis, 1954

Material examined: MOROCCO • 1♀; Drâa-Tafilalet, Amazraou (30.3053, -05.7939); 710 m a.s.l.; 18 Apr. 2024; V. Leclercq leg.; M. Kasparek & V. Leclercq det; VLC.

Regional distribution. Drâa-Tafilalet.
Global distribution. Morocco, Algeria, Israel, Jordan and Oman (Kasparek *et al*. 2024b).

Published synonymies

Pseudoanthidium octodentatum Pérez, 1895

Notes. *Pseudoanthidium bicoloripenne* (Pasteels, 1981) was synonymised with *Pseudoanthidium octodentatum* Pérez, 1895, which is the senior synonym (Kasparek 2024a).
Regional distribution. Souss-Massa.
Global distribution. Morocco, Algeria and Libya (Kasparek 2024a).

Taxonomic acts and clarifications

Afranthidium naefi (Benoist, 1950)

Notes. *Afranthidium naefi* (Benoist, 1950) was found to be distinct from *A. schulthessii* (Friese, 1897), which is endemic to the Iberian Peninsula (Kasparek 2022).
Regional distribution. Marrakech-Safi, Souss-Massa.
Global distribution. Currently only known from Morocco (Kasparek 2022).

Pseudoanthidium (*Pseudoanthidium*) *royoi* (Dusmet, 1915)

Notes. Status resurrected from synonymy with *Pseudoanthidium melanurum* (Kasparek 2024a) (Figure 9).
Regional distribution. Marrakech-Safi.
Global distribution. Currently only known from Morocco (Kasparek 2024a).

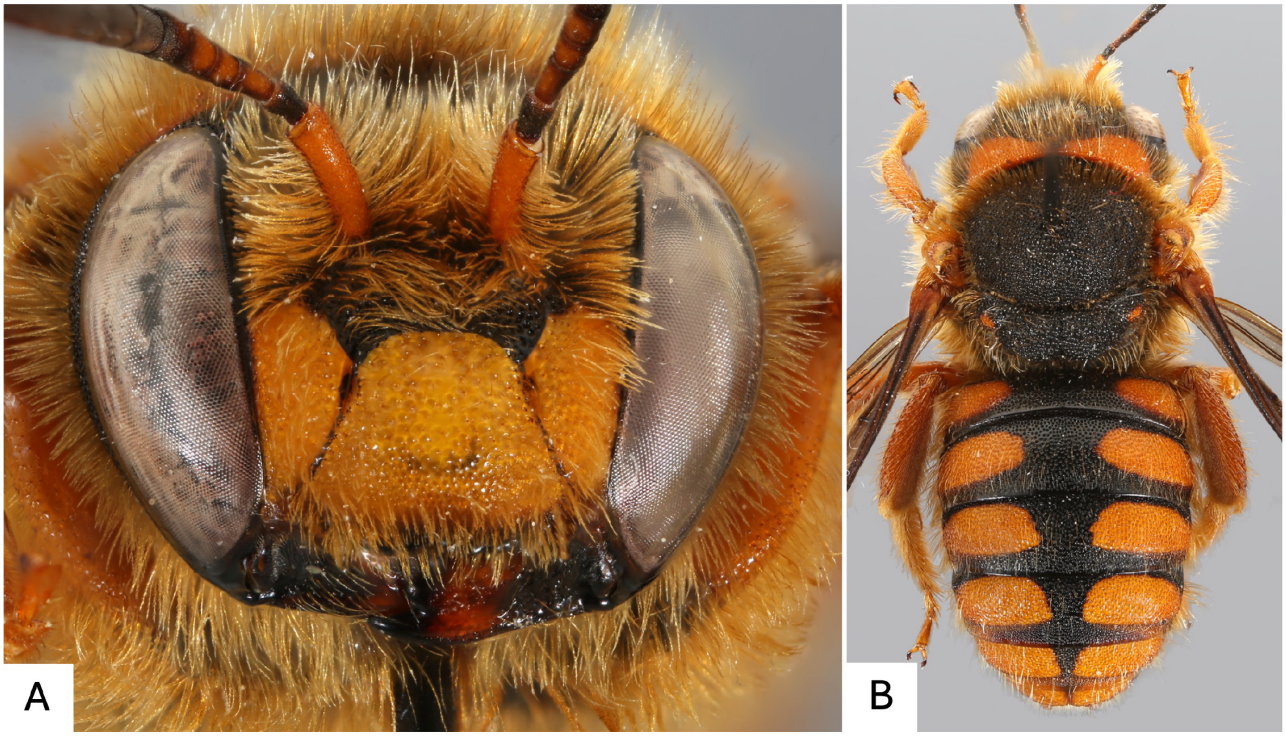

FIGURE 9. *Pseudoanthidium royoi* (Dusmet, 1915). Originally described from Mogador Island in the Atlantic, of Essaouira in the Marrakesh-Safi region, the species was not seen again until its rediscovery 100 years later on the nearby mainland. **A.** Male, face in frontal view; **B.** Male, habitus in dorsal view. Pictures by Max Kasparek.

Species removed from the Moroccan checklist

***Afranthidium malacopygum* (Gribodo, 1894)**
Notes. *Afranthidium malacopygum* (Gribodo, 1894) has been recognised as a subspecies of *A. carduele* (Morawitz, 1875) by Warncke (1980), but some sources still regard it as a valid species (Kasparek 2022). While it is currently thought that only a single taxon is present in Morocco, taxonomic clarification is needed to determine whether this taxon should be called *A. carduele* or *A. malacopygum*.

***Anthidium* (*Gulanthidium*) *eremicum* Alfken, 1938**
Notes. Specimens from Morocco formerly regarded as *Anthidium eremicum* are now considered a distinct species, described as *A. (Gulanthidium) occidentale* Kasparek, 2021 (Kasparek 2021).

***Pseudoanthidium* (*Pseudoanthidium*) *melanurum* (Klug, 1832)**
Notes. Moroccan populations of *Pseudoanthidium melanurum* were recently shown to belong to *P. royoi* (Kasparek 2024a). *Pseudoanthidium melanurum* sensu stricto (i.e. based on records other than *P. royoi*) has thus far not been recorded in Morocco.

***Rhodanthidium* (*Rhodanthidium*) *acuminatum* (Mocsáry, 1884)**
Notes. The only known record of *Rhodanthidium acuminatum* from Morocco originates from Essaouira (formerly Mogador) in 1910 (van der Zanden 1998). Examination of the material cited in that publication revealed that it is no longer housed in the Museo Nacional de Ciencias Naturales (Madrid, Spain) but is now part of the collection at the Naturalis Biodiversity Center, Leiden (The Netherlands). Further inspection of the specimen determined that it actually belongs to *Rhodanthidium sticticum* s.l. (det. T. Wood). Consequently, *R. acuminatum* should be removed from the Moroccan species list.

Tribe Dioxyini Cockerell, 1902

Species recorded in Morocco since 2020

***Aglaoapis tridentata* (Nylander, 1848)**
Material examined: MOROCCO • 1♂; Fès-Meknès, SW of Sefrou; 16 May 2003; M. Halada leg.; T.J. Wood det.; OÖLM; **ALGERIA** • 1♂; Aures, Ain Zaatout; 26–27 May 1971; A. Hoffer & J. Horák leg.; T.J. Wood det.; OÖLM.
Regional distribution. Casablanca-Settat, Fès-Meknès.
Global distribution. Morocco, Algeria*, Europe, Kyrgyzstan, China, Kazakhstan, Russia (Bogusch 2023, Le Divelec *et al.* 2024).

***Dioxys chalicodus* Lucas, 1849**
Regional distribution. Oriental.
Global distribution. Morocco, Algeria, Tunisia, Libya and Egypt (Warncke 1977, Wood 2023c, 2025b)

Taxonomic acts and clarifications

***Dioxys varipes* De Stefani, 1887**
Remarks. Wood (2025b) split *Dioxys pumilus* into four species, with the priority name for *D. pumilus* auctorum in the West Mediterranean being *D. varipes,* which was described from Sicily.
Regional distribution. Fès-Meknès; Rabat-Salé-Kénitra.
Global distribution. Morocco, Portugal, Spain, Italy (Sicily), Algeria, Tunisia and Libya (Wood 2025b).

Species lacking previously published records

***Allodioxys limbiferus* (Pérez, 1895)**
Material examined. MOROCCO • 1♂; Souss-Massa, 12 km N of Agadir; 29 Mar. 1987; J. Gusenleitner leg.; M. Schwarz det.; OÖLM • 1♂; Souss-Massa, Agadir; 24 Apr. 1947; J. de Beaumont leg.; T.J. Wood det.; RMNH; RMNH.INS.1660514 • 1♀; Souss-Massa, Agadir; 11 Jun. 1947; J. de Beaumont leg.; T.J. Wood det.; RMNH; RMNH.INS.1660513 • 1♂; Drâa-Tafilalet, Ouarzazate, N10, 4 km S Barrage Tiouine; 15 Apr. 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 3♂; Drâa-Tafilalet, Ouarzazate, P1505, 2 km S Amerzgane; 1300 m a.s.l.; 13 Apr. 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 1♂, 1♀; Drâa-Tafilalet, Ouarzazate, P1507, 3 km SSE Irhels; 12 Apr. 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 1♀; Drâa-Tafilalet, Tazenakht, 4 km E Tachaokcht; 1900 m a.s.l.; 16 Apr. 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 1♀; Drâa-Tafilalet, Tazenakht, Anezal, 5 km NE Ait Igga; 21 Apr. 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 1♂, 1♀; Drâa-Tafilalet, Tazenakht, R108, 10 km E Tazenakht; 1450 m a.s.l.; 17 Apr. 2022; T.J. Wood leg.; T.J. Wood det.; TJWC • 1♀; Drâa-Tafilalet, Tazenakht, R108, 15 km E Tazenakht; 17 Apr. 2022; T.J. Wood leg.; T.J. Wood det.; TJWC.
Regional distribution. Fès-Meknès, Marrakech-Safi, Drâa-Tafilalet, Souss-Massa.

***Eudioxys quadrispinosus* (Friese, 1899)**
Material examined. MOROCCO • 1♀; Oriental, 40 km S Guercif; 15 May 1995; Ma. Halada leg.; T.J. Wood det.; OÖLM • 1♀; Drâa-Tafilalet, Zagora, 5.2 km E Tagounite, Oued Draa; 600 m a.s.l.; 7 Apr. 2025; T.J. Wood leg.; T.J. Wood det.; TJWC.
Regional distribution. Drâa-Tafilalet, Oriental.

Tribe Lithurgini Newman, 1834

Species recorded in Morocco since 2020

***Lithurgus tibialis* Morawitz, 1875**
Regional distribution. Fès-Meknès.
Global distribution. Morocco, Cyprus, Greece, Italy, Portugal, Spain, Malta, Turkey, Iran, Israel, Jordan, Syria, United Arab Emirates, Afghanistan, Azerbaijan, India, Pakistan, Southern Russia, Tajikistan, Turkmenistan, Uzbekistan, Algeria and Egypt (Cros 1939; Van der Zanden 1986; Fateryga *et al.* 2018; Al-Shahat & Hossni 2020; Sentil *et al.* 2024a; Maharramov *et al.* 2023; Reverté & Miličić *et al.* 2023).

Tribe Megachilini Latreille, 1802

Species recorded in Morocco since 2020

***Coelioxys* (*Boreocoelioxys*) *osmiae* Alfken, 1928**
Regional distribution. Fès-Meknès.
Global distribution. Morocco, Algeria, Tunisia, Portugal and Spain (Kuhlmann *et al.* 2014; Wood 2023c)

***Megachile* (*Xanthosaurus*) *lagopoda* (Linnaeus, 1761)**
Regional distribution. Fès-Meknès, Marrakech-Safi.
Global distribution. Morocco, Algeria, Europe to Russia, Central Asia, China, Korea and Japan (Kuhlmann *et al.* 2014; Ascher & Pickering 2021; Wood 2023c).

***Megachile* (*Eutricharaea*) *rubrimana* Morawitz, 1893**
Regional distribution. Drâa-Tafilalet, Fès-Meknès.
Global distribution. Morocco, Turkey and central Asia (Wood 2023c; Praz, in litt).

***Megachile* (*Eutricharaea*) *thevestensis* Ferton, 1908**
Regional distribution. Fès-Meknès.
Global distribution. Morocco, Algeria, Portugal and Spain (Kuhlmann *et al.* 2014; Wood 2023c; Figure 10).).

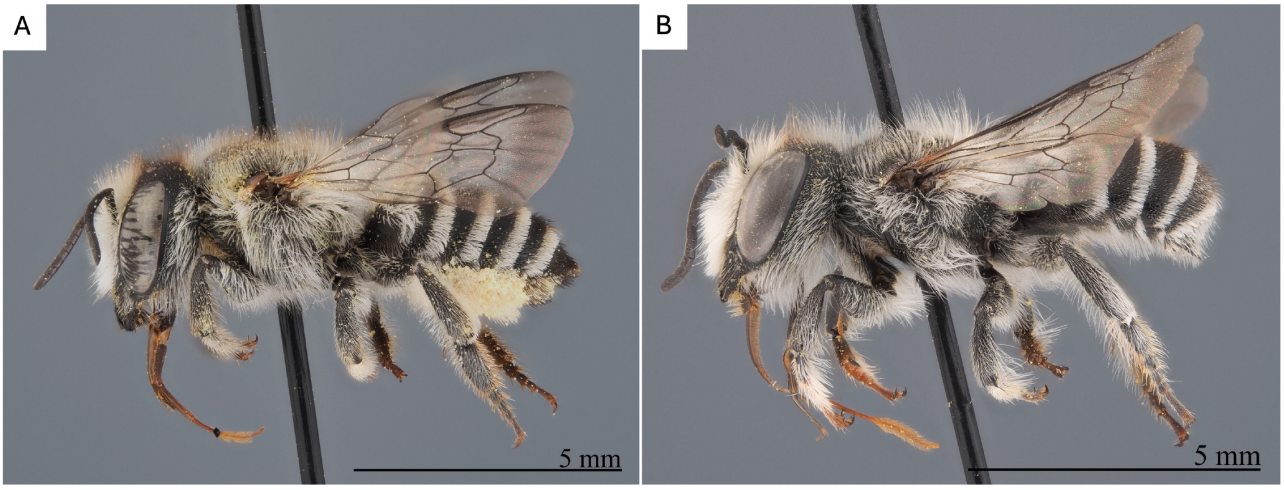

FIGURE 10. A. *Megachile* (*Eutricharaea*) *thevestensis* Ferton, 1908 female, habitus in lateral view. **B.** *Megachile thevestensis* male, habitus in lateral view. Pictures by Paolo Rosa.

Published synonymies

***Megachile argentata* (Fabricius, 1793)**
Notes. *Megachile pilidens* and *M. crassula* were synonymised with *M. argentata*, which is the senior synonym (Praz & Benon 2023).
Regional distribution. Tanger-Tetouan-Al Hoceima, Fès-Meknès, Marrakech-Safi, Drâa-Tafilalet.
Global distribution. Widespread in southern Europe and in expansion in northern Europe, Turkey, Lebanon, Greece, Iran, Armenia and Kyrgyzstan (Praz & Benon 2023).

Taxonomic acts and clarifications

***Coelioxys* (*Allocoelioxys*) *obtusus* Pérez, 1884**
Notes. Sentil *et al.* (2024a) reported *Coelioxys ruficauda* Lepeletier, 1841 as new to Morocco. However, Lepeletier (1841) did not provide a description for *Coelioxys ruficauda*, only an illustration, making it unclear where this taxon was originally described from. Warncke (1992) designated a lectotype in the Paris museum without providing any details about the specimen, and synonymised it with *C. obtusus* Pérez, 1884. However, Schwarz *et al.* (1996) noted that this specimen did not match Lepeletier's illustration. As a result, it cannot be considered a valid lectotype. Since Lepeletier did not provide any information regarding the *locus typicus* or other syntypic material, the identity of the taxon remains unresolved. Consequently, the name *C. ruficauda* cannot currently be used until these issues are clarified, as by definition a species defined by an illustration cannot be represented by a lectotype that does not correspond to said illustration. The record of *C. ruficauda* reported in Sentil *et al.* (2024a) should correspond to *C. obtusus.*
Regional distribution. Tanger-Tetouan-Al Hoceima, Fès-Meknès, Casablanca-Settat, Marrakech-Safi.
Global distribution. Morocco, France, Greece, Croatia, Caucasus, Spain Italy, Poland, Iran, Turkmenistan, Iraq, Turkey, Egypt.

Species lacking previously published records

***Megachile* (*Chalicodoma*) *incerta* Radoszkowski, 1876**

Material examined: MOROCCO • 1♂; Drâa-Tafilalet, Ouarzazate, P1507, 3 km N Irhels; 12 Apr. 2022; T.J. Wood leg.; C. Praz det.; TJWC.

Regional distribution. Laâyoune-Sakia El Hamra, Drâa-Tafilalet.

***Megachile* (*Eutricharaea*) *inexspectata* Rebmann, 1968**

Material examined: MOROCCO • 3♂; Souss-Massa, R105, Ait Baha, 2 km E, Askar env.; 500 m a.s.l.; 12 Mar. 2022; T.J. Wood leg.; C. Praz det.; TJWC • 1♀; Guelmim-Oued Noun, Guelmim, Asrir, 1 km W; 20 Mar. 2022; T.J. Wood leg.; C. Praz det.; TJWC • 6♂, 1♀; Souss-Massa, Tiznit, Tanalt, oasis between Ait Moussa and Anadia; 22 Mar. 2022; T.J. Wood leg.; C. Praz det.; TJWC • 1♂, 1♀; Marrakech-Safi, Imidal, 5 km S, R203, Tigouramine; 1000 m a.s.l.; 7 Jul. 2022; T.J. Wood leg.; C. Praz det.; TJWC • 1♂; Drâa-Tafilalet, Aguelmouss, N9; 2050 m a.s.l.; 13 Jul. 2022; T.J. Wood leg.; C. Praz det.; TJWC.

Regional distribution. Drâa-Tafilalet, Souss-Massa, Guelmim-Oued Noun, Marrakech-Safi.

***Megachile* (*Eutricharaea*) *levistriga* Alfken, 1934**

Material examined: MOROCCO • 1♂; Souss-Massa, Tamri, 2 km E, P1002, Asif n'Srou; 10 Mar. 2022; T.J. Wood leg.; C. Praz det.; TJWC • 1♀; Souss-Massa, R105, Tizirt, 8 km N, Ighir Ifran env.; 12 Mar. 2022; T.J. Wood leg.; C. Praz det.; TJWC • 1♀; Souss-Massa, Tiznit, Tanalt, oasis between Ait Moussa and Anadia; 22 Mar. 2022; T.J. Wood leg.; C. Praz det.; TJWC • 1♂; Fès-Meknès, Boulemane, Ait Ammou; 1600 m a.s.l.; 19 May 2022; T.J. Wood leg.; C. Praz det.; TJWC • 1♀; Béni Mellal-Khenifra, Khenifra, P7304, 6 km NWW of Sources Oum Rabia; 1100 m a.s.l.; 20 May 2022; T.J. Wood leg.; C. Praz det.; TJWC • 1♀; Fès-Meknès, Boulemane, R503, SE of Ait Karmosse; 1750 m a.s.l.; 22 May 2022; T.J. Wood leg.; C. Praz det.; TJWC.

Regional distribution. Souss-Massa, Béni Mellal-Khenifra, Fès-Meknès.

Tribe Osmiini Newman, 1834

Species recently described as new to science

***Hoplitis* (*Anthocopa*) *clypeoincisa* Müller, 2022**

Hoplitis (*Anthocopa*) *clypeoincisa* Müller, 2022a: 235–263. Holotype ♀; Morocco, Oriental, 40 km S Guercif; 15–17 May 1995; M. Halada leg.; A. Müller det.; ETHZ.

Regional distribution. Oriental.

Global distribution. Currently only known from Morocco (Müller 2022a).

***Hoplitis* (*Alcidamea*) *herrmanni* Müller, 2022**

Hoplitis (*Alcidamea*) *herrmanni* Müller, 2022a: 234–235. Holotype ♂; Morocco, Laâyoune-Sakia El Hamra, Layoune; 16 Feb. 1988; K. Guichard leg.; A. Müller det.; ETHZ.

Regional distribution. Laâyoune-Sakia El Hamra.

Global distribution. Currently only known from Morocco (Müller 2022a).

***Hoplitis* (*Hoplitis*) *maussi* Müller, 2022**

Hoplitis (*Hoplitis*) *maussi* Müller, 2022a: 247–249. Holotype ♂; Morocco, Souss-Massa: 4 km ESE Ait Baha; 12 Apr. 2017; A. Müller leg./det.; ETHZ (Figure 11).

Regional distribution. Souss-Massa.

Global distribution. Currently only known from Morocco (Müller 2022a).

***Hoplitis* (*Anthocopa*) *prazi* Müller, 2022**

Hoplitis (*Anthocopa*) *prazi* Müller, 2022a: 237–240. Holotype ♀; Morocco, Guelmim-Oued Noun, 33 km SW Sidi Ifni; 18 Apr. 2017; A. Müller leg./det.; ETHZ (Figure 12).

Regional distribution. Guelmim-Oued Noun.

Global distribution. Morocco, Tunisia, Israel and Jordan (Müller 2024).

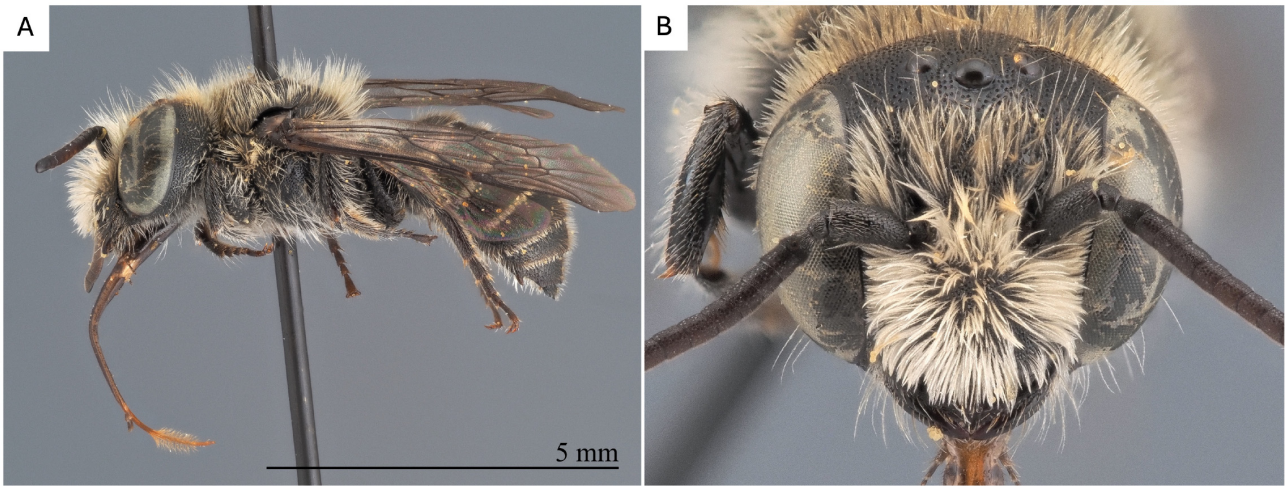

FIGURE 11. A. *Hoplitis* (*Hoplitis*) *maussi* Müller, 2022 male, habitus in lateral view. **B.** *Hoplitis maussi* male, head in frontal view. Pictures by Paolo Rosa.

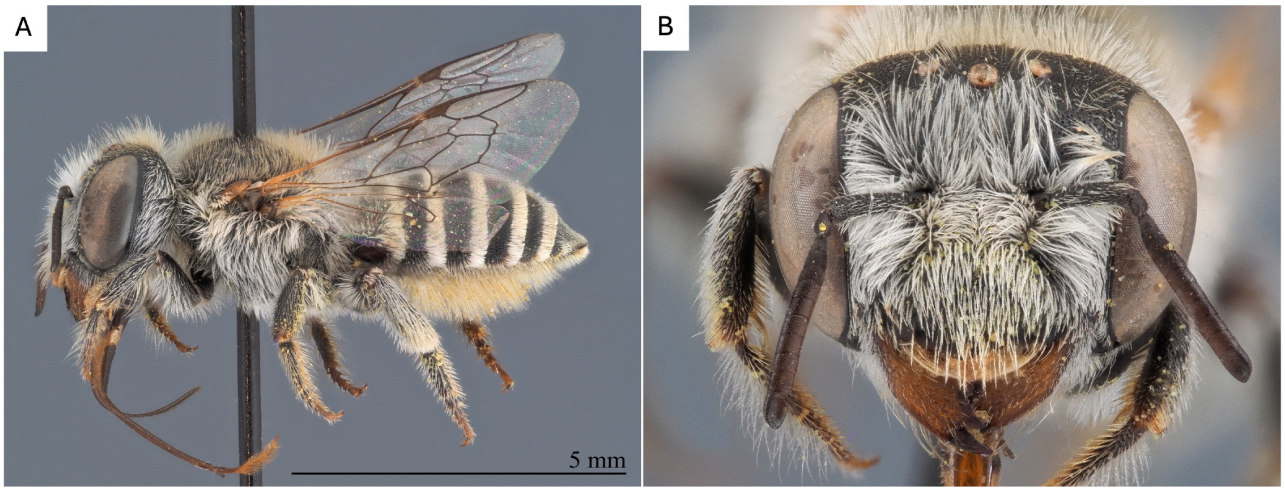

FIGURE 12. A. *Hoplitis* (*Anthocopa*) *prazi* Müller, 2022 female, habitus in lateral view. **B.** *Hoplitis prazi* female, head in frontal view. Pictures by Paolo Rosa.

Hoplitis (*Hoplitis*) *prosii* Müller, 2022

Hoplitis (*Hoplitis*) *prosii* Müller, 2022a: 249–252. Holotype ♂; Morocco, Drâa-Tafilalet, Draa valley, near Agdz; 4 Mar. 2006; A. Müller leg./det.; ETHZ.

Regional distribution. Drâa-Tafilalet.

Global distribution. Currently only known from Morocco (Müller 2022a).

Hoplitis (*Anthocopa*) *sedivyi* Müller, 2022

Hoplitis (*Anthocopa*) *sedivyi* Müller, 2022a: 241–243. Holotype ♂; Morocco, Drâa-Tafilalet, Dra valley, near Agdz; 4 Mar. 2006; A. Müller, M. Widmer leg.; A. Müller det.; ETHZ.

Regional distribution. Drâa-Tafilalet.

Global distribution. Currently only known from Morocco (Müller 2022a).

Hoplitis (*Tkalcua*) *sidiifnii* Müller, 2022

Hoplitis (*Tkalcua*) *sidiifnii* Müller, 2022a: 255–256. Holotype ♀; Morocco, Guelmim-Oued Noun, Foum Assaka, 35 km SW Sidi Ifni; 19 Apr. 2017; A. Müller leg./det.; ETHZ.

Regional distribution. Guelmim-Oued Noun.

Global distribution. Currently only known from Morocco (Müller 2022a).

Hoplitis (*Anthocopa*) *sternocarinata* Müller, 2022

Hoplitis (*Anthocopa*) *sternocarinata* Müller, 2022a: 243–245. Holotype ♂; Morocco, Souss-Massa: S Tizi-n-Test; 30 Jun. 1987; M. Schwarz leg.; A. Müller det.; ETHZ.

Regional distribution. Souss-Massa.

Global distribution. Currently only known from Morocco (Müller 2022a).

Hoplitis (Anthocopa) trabutiana Müller & Wood, 2025

Hoplitis (*Anthocopa*) *convolvuli* Müller, 2022a: 236–237, *nom. praeocc.*, *nec Osmia papaveris* var. *convolvuli* Ducke, 1899). Holotype ♀; Morocco, Drâa-Tafilalet, Tizi-n-Bachkoum, 10 km N Tazenakht; 23 Apr. 2008; A. Müller & C. Sedivy leg.; A. Müller det.; ETHZ. *Hoplitis* (*Anthocopa*) *trabutiana* Müller & Wood, 2025: pages. Replacement name for Hoplitis convolvuli Müller, 2022a, *nom. praeocc.*, *nec Hoplitis papaveris convolvuli* (Ducke, 1899).

Regional distribution. Drâa-Tafilalet.

Global distribution. Currently only known from Morocco (Müller 2022a, Müller & Wood 2025).

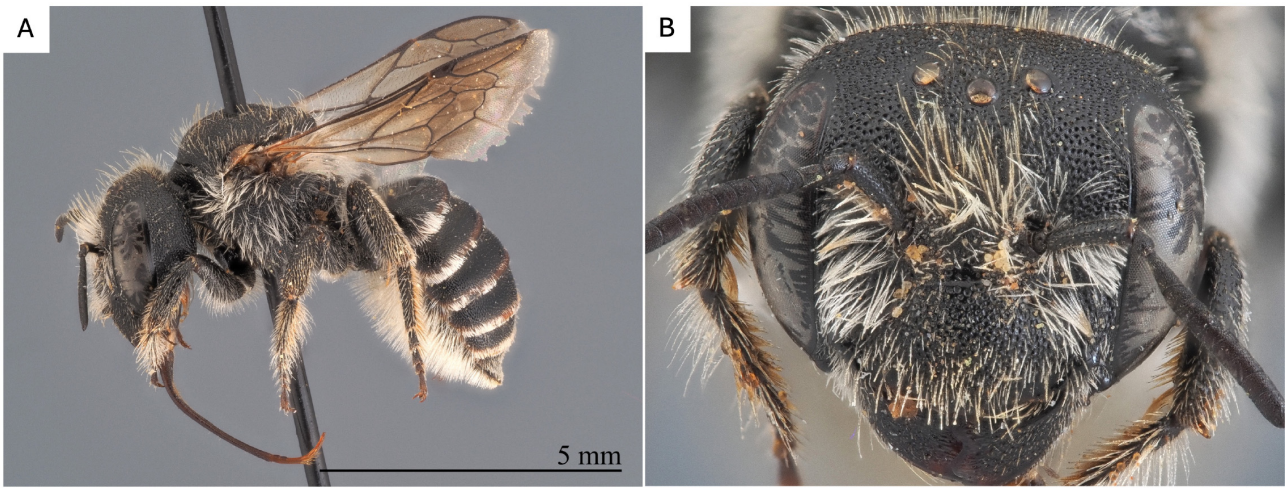

FIGURE 13. A. *Hoplitis* (*Anthocopa*) *trabutiana* Müller, 2025, female, habitus in lateral view. **B.** *Hoplitis trabutiana* female, head in frontal view. Pictures by Paolo Rosa.

Hoplitis (*Hoplitis*) *weibeli* Müller, 2022

Hoplitis (*Hoplitis*) *weibeli* Müller, 2022a: 252–254. Holotype ♂; Morocco, Souss-Massa: 20 km N Tafraoute; 14 Apr. 2017; A. Müller leg./det. ETHZ.

Regional distribution. Souss-Massa.

Global distribution. Currently only known from Morocco (Müller 2022a).

Hoplitis (*Anthocopa*) *widmeri* Müller, 2022

Hoplitis (*Anthocopa*) *widmeri* Müller, 2022a: 245–247. Holotype ♂; Morocco, Drâa-Tafilalet, Tizi-n-Tagergoust, 5 km E Tazenakht; 22 Apr. 2008; M.Herrmann leg.; A. Müller det.; ETHZ.

Regional distribution. Drâa-Tafilalet.

Global distribution. Currently only known from Morocco (Müller 2022a).

Osmia (*Nasutosmia*) *longipalpa* Müller, 2022

Osmia (*Nasutosmia*) *longipalpa* Müller, 2022a: 256–258. Holotype ♀; Morocco, Marrakech-Safi, Tachguelt, Ijoukak, Tizi-n-Test; 21 Apr. 2009; A. Müller leg./det.; ETHZ.

Regional distribution. Marrakech-Safi.

Global distribution. Currently only known from Morocco (Müller 2022a).

Osmia (*Neosmia*) *nigrocalcaribus* Müller, 2022

Osmia (*Neosmia*) *nigrocalcaribus* Müller, 2022b: 220. Holotype ♀; Morocco, Tanger-Tétouan-Al Hoceïma, 20 km E Targuist; 27 Apr. 2009; E. Hajdaj leg.; A. Müller det.; ETHZ.

Regional distribution. Tanger-Tétouan-Al Hoceïma.

Global distribution. Morocco, Algeria and Tunisia (Müller 2022b).

***Protosmia* (*Nanosmia*) *curviseta* Müller, 2022**

Protosmia (*Nanosmia*) *curviseta* Müller, 2022a: 258–260. Holotype ♀; Morocco, Guelmim-Oued Noun, 2.75 km SW Ifrane Atlas Saghir; 17 Apr. 2017; A. Müller leg./det.; ETHZ.

Regional distribution. Guelmim-Oued Noun.

Global distribution. Currently only known from Morocco (Müller 2022a).

***Protosmia* (*Nanosmia*) *magna* Müller, 2022**

Protosmia (*Nanosmia*) *magna* Müller, 2022a: 261–262. Holotype ♂; Morocco, Guelmim-Oued Noun, 10 km E Guelmim; 15–16 Apr. 1995; M. Halada leg.; A. Müller det.; ETHZ.

Regional distribution. Guelmim-Oued Noun.

Global distribution. Currently only known from Morocco (Müller 2022a).

Species recorded in Morocco since 2020

***Chelostoma* (*Foveosmia*) *campanularum* (Kirby, 1802)**

Regional distribution. Marrakech-Safi.

Global distribution. Morocco, Algeria, Europe to Russia and Turkey (Wood 2023c; Müller 2024) and North America (Eickwort 1980)

***Hoplitis* (*Anthocopa*) *peniculifera* Müller, 2012**

Regional distribution. Fès-Meknès, Marrakech-Safi.

Global distribution. Morocco and Spain (Müller 2012, Wood 2023c).

Taxonomic acts and clarifications

***Hoplitis* (*Hoplitis*) *gregaria* (Warncke, 1992)**

Notes. *Hoplitis benoisti gregaria* was elevated to the species level by Müller (2024).

Regional distribution. Tanger-Tetouan-Al Hoceima, Oriental, Fès-Meknès, Béni Mellal-Khénifra, Casablanca-Settat, Marrakech-Safi, Drâa-Tafilalet, Souss-Massa, Guelmim-Oued Noun.

Global distribution. Morocco, Algeria and Tunisia (Müller 2024).

***Hoplitis* (*Alcidamea*) *acuticornis* (Dufour & Perris, 1840)**

Notes. *Hoplitis camelina* (Benoist, 1934) was re-assessed as a subspecies of *Hoplitis acuticornis* (Dufour & Perris, 1840) rather than as a full species, as proposed by Warncke (1991), based on morphological data (Müller 2024).

Regional distribution. Fès-Meknès, Béni Mellal-Khénifra, Casablanca-Settat, Marrakech-Safi, Drâa-Tafilalet, Souss-Massa.

Global distribution. Morocco and possibly Tunisia (Müller 2024).

***Osmia* (*Pyrosmia*) *elbaba* Warncke, 1992**

Notes. *Osmia elbaba* was incorrectly considered as a synonym of *Osmia cyanoxantha* Pérez, 1879 by Zanden (1996), and actually represents a distinct species (Müller 2024).

Regional distribution. Fès-Meknès, Drâa-Tafilalet, Souss-Massa.

Global distribution. Morocco, Algeria and Tunisia (Müller 2024).

***Osmia* (*Pyrosmia*) *leucopyga* Ducke, 1899**

Notes. *Osmia leucopyga* was incorrectly synonymised with *Osmia lobata* Friese, 1899 by Warncke (1992) and represents a distinct species (Müller 2024).

Regional distribution. Fès-Meknès, Marrakech-Safi, Souss-Massa.

Global distribution. Morocco, Portugal, Spain, Algeria and possibly Tunisia (Müller 2024).

***Osmia* (*Allosmia*) *soror* Pérez, 1896**

Notes. *Osmia soror* was treated as the North African subspecies of *O. rufohirta* Latreille, 1811 by Zanden (1988), Ungricht *et al.* (2008), and Scheuchl & Willner (2016). However, based on morphological and spatial data, the two

taxa are now considered distinct species (Müller 2022b). *Osmia rufohirta* is known in Morocco only from a single locality in the Middle Atlas (Müller 2022b).
Regional distribution. Tanger-Tetouan-Al Hoceima, Fès-Meknès, Casablanca-Settat.
Global distribution. Morocco, Algeria and Tunisia (Müller 2022b).

Family MELITTIDAE Schenck, 1860

Tribe Dasypodaini Sagemehl, 1882

Species recently described as new to science

***Dasypoda* (*Microdasypoda*) *schwarzi* Radchenko & Michez, 2022**
Dasypoda (*Microdasypoda*) *schwarzi* Radchenko & Michez, 2022: 75–83. Paratypes 2♂; Morocco, Oriental, 40 km S Guercif (33.8833, -3.3666), 15–17 May 1995, M. Halada leg.; D. Michez det.; UMONS.
Regional distribution. Oriental.
Global distribution. Morocco and Tunisia (Radchenko *et al*. 2022).

Discussion

This work presents an update of the Moroccan checklist of wild bees since Lhomme *et al.* (2020), which reported 961 species. The total number of Moroccan wild bee species now reaches 1,043, classified into 70 genera and six families (Table 1). In the present work, we reported 2 additional genera for Morocco, 36 species recently described from Morocco, 37 new species for the country published after Lhomme *et al.* (2020) and 33 taxa with taxonomic changes. Additionally, we provided original records for 16 species previously unknown for Morocco and records for 28 species that were reported in Lhomme *et al.* (2020) without reference to precise localities. We also removed 14 species listed in the previous checklist and excluded 25 names based on published synonymies and taxonomic acts and clarifications.

The increase of 8.5% of species recorded in Morocco since the publication of the first national checklist in 2020, combined with the numerous taxonomic changes (13.6%), underlines the significant taxonomic knowledge gaps and the geographic biases in the Moroccan bee fauna. Despite notable advances in bee taxonomy over the past five years, particularly for *Andrena* (Wood *et al.* 2020; Wood 2021, 2023a,b,c; Wood 2025a), Anthidiini (Kasparek & Schwarz 2020; Kasparek *et al.* 2023a,b; Kasparek 2021, 2022, 2024a,b; Kasparek *et al.* 2024), and Osmiini (Müller 2022a,b; Müller 2024), progress has been uneven across taxonomic groups. Others, such as Halictidae, Megachilini, Anthophorinae, Eucerini, and *Hylaeus* are currently receiving increased attention, but this has yet to result in published records or comprehensive taxonomic revisions, resulting in continued uncertainties and limiting additions to the national bee checklist.

The great proportion of the new species and records presented in this work (i.e., 65% of the current work) come from regions known for their high bee diversity and their extensive history of sampling (i.e., Marrakech-Safi, Drâa-Tafilalet, Fès-Meknès, and Souss-Massa) (Lhomme *et al.* 2020). While these well-studied regions still require further exploration, other regions remain largely overlooked. The Rif Mountains (e.g., Tanger-Tétouan-Al Hoceïma), the Atlantic coastal areas (e.g., Casablanca-Settat) and the inland continental climate areas (e.g., Béni Mellal-Khénifra) have received limited monitoring despite their rich floral diversity. Similarly, vast arid and semi-arid regions, such as Laâyoune-Sakia El Hamra and Dakhla-Oued ed-Dahab are largely undersampled.

The number of bee species currently considered endemic to Morocco has increased from 81 species (Lhomme *et al.* 2020) to 109 species in this update, representing a 36% increase and approximately 10% of the known national fauna. However, this apparent rise in endemism must be interpreted with caution. Many of the newly described species are known from single localities or restricted areas, and comparable surveys in adjacent regions remain scarce. In neighbouring countries, knowledge of wild bee diversity remains fragmentary. Algeria and Mauritania lack national checklists, and existing records are sparse or outdated. It is therefore likely that some of these species may eventually be found outside Morocco as regional sampling improves. Despite this uncertainty,

the high proportion of currently recognized endemic species emphasizes the country's unique and still insufficiently explored bee fauna. These results reinforce the importance of continued taxonomic research and the urgent need to assess the conservation status of local populations, given that local endemic species are particularly vulnerable to environmental changes (Midgley *et al.* 2002).

To date, no studies have assessed the population trends and conservation status of Moroccan wild bees. Compared to honey bees, research on wild bees in Morocco receives little financial support, with local funding primarily directed toward honey bee health and beekeeper support (Ministry of Agriculture 2024, 2025; Aglagane *et al.* 2023, 2024), despite the significant contribution of wild bees in crop pollination and ecosystem functioning (Klein *et al.* 2018; El Abdouni *et al.* 2022; Sentil *et al.* 2024b, 2022a,b, 2021). Studies in the Mediterranean basin have documented significant declines in wild bee abundance and diversity (Herrera 2020), indicating that Moroccan wild bees may be exposed to similar pressures, although no country-specific long-term data are currently available. Therefore, wild bee monitoring and taxonomic studies should be complemented by advanced studies on population status, trends and drivers to anticipate or mitigate any potential declines.

To enable advanced research on Moroccan wild bees and inform policymakers, the first step is the creation of a centralized national database that compiles information on species distributions and ecology. The existing datasets remain scattered, often unpublished, or lack standardization. The next step is the establishment of a national Red List of bees, which would help identify knowledge gaps, priority species and serve as a tool for targeted action plans.

TABLE 1. Checklist of the wild bee species of Morocco, with species so far recorded only in Morocco indicated by a cross.

Andrenidae Latreille, 1802	
Andrenini Latreille, 1802	
***Andrena* Fabricius, 1775**	
Andrena abjecta Pérez, 1895	
Andrena abrupta Warncke, 1967	
Andrena abscondita Wood, 2023	
Andrena abunda Warncke, 1974	
Andrena acutidentis Wood, 2020	X
Andrena aegyptiaca Friese, 1899	
Andrena aeneiventris Morawitz, 1872	
Andrena aerinifrons Dours, 1873	
Andrena aetherea Warncke, 1974	X
Andrena agilissima (Scopoli, 1770)	
Andrena agnata Warncke, 1967	
Andrena albifacies Alfken, 1927	
Andrena albopunctata (Rossi, 1792)	
Andrena alchata Warncke, 1974	
Andrena alfkenella Perkins, 1914	
Andrena alluaudi Benoist, 1961	
Andrena ampla Warncke, 1967	
Andrena anammas Wood, 2023	X
Andrena andina Warncke, 1974	X
Andrena antigana Pérez, 1895	
Andrena argyreofasciata Schmiededknecht, 1900	
Andrena asperrima Pérez, 1895	
Andrena assimilis Radoszkowski, 1876	
Andrena atlantea Wood, 2021	X

.....continued on the next page

TABLE 1. (Continued)

Andrena avara Warncke, 1967	
Andrena beaumonti Benoist, 1961	X
Andrena bellidis Pérez, 1895	
Andrena bendai Wood, 2023	X
Andrena berberica Wood, 2023	X
Andrena bicolor Fabricius, 1775	
Andrena bicolorata (Rossi, 1790)	
Andrena bimaculata (Kirby, 1802)	
Andrena binominata Smith, 1853	
Andrena biskrensis Pérez, 1895	
Andrena blanda Pérez, 1895	
Andrena boyerella Dours, 1872	
Andrena breviceps Wood, 2020	
Andrena byrsicola Schmiedeknecht, 1900	
Andrena caesia Warncke, 1974	
Andrena caroli Pérez, 1895	
Andrena cilissaeformis Pérez, 1895	
Andrena cinerea Brullé, 1833	
Andrena colletiformis Morawitz, 1874	
Andrena compta Lepeletier, 1841	
Andrena curtivalvis Morice, 1899	
Andrena darha Wood, 2023	X
Andrena decipiens Schenck, 1861	
Andrena discors Erichson, 1841	
Andrena djelfensis Pérez, 1895	
Andrena doursana Dufour, 1853	
Andrena eureka Warncke, 1974	X
Andrena euzona Pérez, 1895	
Andrena exigua Erichson, 1835	
Andrena fabrella Pérez, 1903	
Andrena farinosoides Wood, 2020	X
Andrena ferrugineicrus Dours, 1872	
Andrena flavilabris Schenck, 1874	
Andrena flavipes Panzer, 1799	
Andrena florea Fabricius, 1793	
Andrena florentina Magretti, 1883	
Andrena fratella Warncke, 1968	
Andrena fulica Warncke, 1974	
Andrena fuliginata Pérez, 1895	
Andrena fulvicornis (Schenck, 1853)	
Andrena fumida Pérez, 1895	
Andrena fuscosa Erichson, 1835	
Andrena gemina Wood, 2023	X
Andrena granulosa Pérez, 1902	

.....continued on the next page

TABLE 1. (Continued)

	Andrena gregaria Warncke, 1974	X
	Andrena guichardi Warncke, 1980	X
	Andrena guttata Warncke, 1969	
	Andrena hebescens Wood, 2020	
	Andrena hedikae Jaeger, 1934	
	Andrena heliaca Warncke, 1974	X
	Andrena hesperia Smith, 1853	
	Andrena hirticornis Pérez, 1895	
	Andrena humilis Imhoff, 1832	
	Andrena hystrix Schmiedeknecht, 1883	
	Andrena icterina Warncke, 1974	
	Andrena ifranensis Wood, 2023	X
	Andrena impunctata Pérez, 1895	
	Andrena inflata Wood, 2021	
	Andrena innesi Gribodo, 1894	
	Andrena insignis Warncke, 1974	X
	Andrena isis Schmiedeknecht, 1900	
	Andrena kamarti Schmiedeknecht, 1900	
	Andrena labialis (Kirby, 1802)	
	Andrena lagopus Latreille, 1809	
	Andrena langadensis Warncke, 1965	
	Andrena laurivora Warncke, 1974	
	Andrena lavandulae Pérez, 1902	
	Andrena lepida Schenck, 1861	
	Andrena leptopyga Pérez, 1895	
	Andrena lepurana Warncke, 1974	
	Andrena leucocyanea Pérez, 1895	
	Andrena leucophaea Lepeletier, 1841	
	Andrena leucura Warncke, 1974	
	Andrena limata Smith, 1853	
	Andrena livens Pérez, 1895	
	Andrena longibarbis Pérez, 1895	
	Andrena lusitania Wood & Ortiz-Sánchez, 2022	
	Andrena macroptera Warncke, 1974	
	Andrena maidaqi Scheuchl & Gusenleitner, 2007	
	Andrena mara Warncke, 1974	
	Andrena mariana Warncke, 1968	
	Andrena marsae Schmiedeknecht, 1900	
	Andrena medeninensis Pérez, 1895	
	Andrena mediovittata Pérez, 1895	
	Andrena melacana Warncke, 1967	
	Andrena menahemella Scheuchl & Pisanty, 2016	
	Andrena merimna Saunders, 1908	
	Andrena mica Warncke, 1974	

.....continued on the next page

TABLE 1. (Continued)

	Andrena microcardia Pérez, 1895	
	Andrena microthorax Pérez, 1895	
	Andrena miegiella Dours, 1873	
	Andrena minapalumboi Gribodo, 1894	
	Andrena minutula (Kirby, 1802)	
	Andrena minutuloides Perkins, 1914	
	Andrena monilia Warncke, 1967	
	Andrena morio Brullé, 1833	
	Andrena mucida Kriechbaumer, 1873	
	Andrena mucronata Morawitz, 1871	
	Andrena muelleri Wood, 2023	X
	Andrena nana (Kirby, 1802)	
	Andrena nebularia Warncke, 1975	
	Andrena nigroaenea (Kirby, 1802)	
	Andrena nigroolivacea Dours, 1873	
	Andrena nigropilosa Warncke, 1967	
	Andrena nigrospina Thomson, 1872	
	Andrena nigroviridula Dours, 1873	
	Andrena nitidula Pérez, 1903	
	Andrena niveofacies Wood, 2020	X
	Andrena numida Lepeletier, 1841	
	Andrena obsoleta Pérez, 1895	
	Andrena orana Warncke, 1975	
	Andrena orbitalis Morawitz, 1871	
	Andrena ounifa Warncke, 1974	
	Andrena oviventris Pérez, 1895	
	Andrena pandellei Pérez, 1895	
	Andrena pandosa Warncke, 1968	
	Andrena panurgina De Stefani, 1889	
	Andrena parviceps Kriechbaumer, 1873	
	Andrena pauxilla Stöckhert, 1935	
	Andrena pela Warncke, 1974	X
	Andrena petrosa Warncke, 1974	
	Andrena pilipes Fabricius, 1781	
	Andrena planiventris Dours, 1872	
	Andrena poupillieri Dours, 1872	
	Andrena pratincola Warncke, 1974	
	Andrena propinqua Schenck, 1853	
	Andrena purpurascens Pérez, 1895	
	Andrena quieta Wood, 2023	
	Andrena ranunculi Schmiedeknecht, 1883	
	Andrena relata Warncke, 1967	
	Andrena reperta Warncke, 1974	
	Andrena rhenana Stöckhert, 1930	

.....continued on the next page

TABLE 1. (Continued)

	Andrena rhypara Pérez, 1903	
	Andrena rhyssonota Pérez, 1895	
	Andrena rotundata Pérez, 1895	
	Andrena rufescens Pérez, 1895	
	Andrena rufiventris Lepeletier, 1841	
	Andrena russula Lepeletier, 1841	
	Andrena sardoa Lepeletier, 1841	
	Andrena savignyi Spinola, 1838	
	Andrena saxonica Stöckhert, 1935	
	Andrena schmiedeknechti Magretti, 1883	
	Andrena selena Gusenleitner, 1994	
	Andrena semiadesus Wood, 2020	X
	Andrena senecionis Pérez, 1895	
	Andrena simontornyella Noskiewicz, 1939	
	Andrena sinuata Pérez, 1895	
	Andrena soror Dours, 1872	
	Andrena sparsipunctata Wood, 2020	X
	Andrena speciosa Friese, 1899	
	Andrena spolata Warncke, 1968	
	Andrena spreta Pérez, 1895	
	Andrena succinea Dours, 1872	
	Andrena synadelpha Perkins, 1914	
	Andrena tadorna Warncke, 1974	
	Andrena tebessana Scheuchl, Benarfa & Louadi, 2011	
	Andrena tenebricorpus Wood, 2020	X
	Andrena tenuistriata Pérez, 1895	
	Andrena testaceipes Saunders, 1908	
	Andrena thoracica (Fabricius, 1775)	
	Andrena tiaretta Warncke, 1974	
	Andrena tinctoria Wood, 2023	X
	Andrena totana Warncke, 1974	
	Andrena triangulivalvis Wood, 2020	X
	Andrena trimmerana (Kirby, 1802)	
	Andrena tuberculifera Pérez, 1895	
	Andrena tunetana Schmiedeknecht, 1900	
	Andrena urdula Warncke, 1965	
	Andrena varia Pérez, 1895	
	Andrena variabilis Smith, 1853	
	Andrena varicornis Pérez, 1895	
	Andrena vaulogeri Pérez, 1895	
	Andrena ventricosa Dours, 1873	
	Andrena verticalis Pérez, 1895	
	Andrena vetula Lepeletier, 1841	
	Andrena villipes Pérez, 1895	

.....continued on the next page

TABLE 1. (Continued)

	Andrena vulcana Dours, 1873	
	Andrena vulpecula Kriechbaumer, 1873	
	Andrena zachroa Cockerell, 1930	
	Andrena zygophylli Saunders, 1908	
Melitturgini Newman, 1834		
	***Borgatomelissa* Patiny, 2000**	
	Borgatomelissa flavimaura Ortiz-Sánchez & Patiny, 2019	
	***Camptopoeum* Spinola, 1843**	
	Camptopoeum handlirschi Friese, 1900	
	Camptopoeum nadigi (Warncke, 1972)	X
	Camptopoeum pseudoruber (Warncke, 1987)	X
	Camptopoeum simile (Pérez, 1895)	
	Camptopoeum variegatum (Morawitz, 1876)	
	***Melitturga* Latreille, 1809**	
	Melitturga albescens Pérez, 1895	
	Melitturga caudata Pérez, 1879	
	Melitturga oraniensis Lepeletier, 1841	
	Melitturga rubricata Morice, 1916	
Panurgini Leach, 1815		
	***Clavipanurgus* Warncke, 1972**	
	Clavipanurgus desertus (Warncke, 1987)	X
	***Panurginus* Nylander, 1848**	
	Panurginus albopilosus (Lucas, 1849)	
	Panurginus tunensis (Warncke, 1972)	
	***Panurgus* Panzer, 1806**	
	Panurgus acutus Patiny, 2002	X
	Panurgus avarus Warncke, 1972	
	Panurgus banksianus (Kirby, 1802)	
	Panurgus buteus Warncke, 1972	
	Panurgus calcaratus (Scopoli, 1763)	
	Panurgus calceatus Pérez, 1895	
	Panurgus canarius Warncke, 1972	
	Panurgus canescens Latreille, 1811	
	Panurgus catulus Warncke, 1972	
	Panurgus cephalotes Latreille, 1811	
	Panurgus convergens Pérez, 1895	
	Panurgus dargius Warncke, 1972	
	Panurgus dentatus Friese, 1901	
	Panurgus farinosus Warncke, 1972	
	Panurgus intermedius Rozen, 1971	X
	Panurgus maroccanus Pérez, 1895	
	Panurgus minor Warncke, 1972	X
	Panurgus nigriscopus Pérez, 1895	
	Panurgus niloticus Warncke, 1972	

.....continued on the next page

TABLE 1. (Continued)

	Panurgus ovatulus Warncke, 1972	X
	Panurgus perezi Saunders, 1882	
	Panurgus pici Pérez, 1895	
	Panurgus pyropygus Friese, 1901	
	Panurgus rungsii Benoist, 1937	X
	Panurgus vachali Pérez, 1895	
***Plesiopanurgus* Cameron, 1907**		
	Plesiopanurgus zizus (Warncke, 1987)	X
Apidae Latreille, 1802		
Ammobatini Handlirsch, 1925		
***Ammobates* Latreille, 1809**		
	Ammobates arsinoe Engel, 2009	
	Ammobates assimilis (Warncke, 1983)	
	Ammobates buteus (Warncke, 1983)	X
	Ammobates dubius Benoist, 1961	
	Ammobates handlirschi Friese, 1895	
	Ammobates minor (Pérez, 1902)	
	Ammobates muticus Spinola, 1843	
	Ammobates oraniensis (Lepeletier, 1841)	
	Ammobates punctatus (Fabricius, 1804)	
	Ammobates rufiventris Latreille, 1809	
	Ammobates syriacus Friese, 1899	
	Ammobates verhoeffi Mavromoustakis, 1959	
***Parammobatodes* Popov, 1932**		
	Parammobatodes maroccanus (Warncke, 1983)	
***Pasites* Jurine, 1807**		
	Pasites maculatus Jurine, 1807	
Ammobatoidini Latreille, 1802		
***Ammobatoides* Radoszkowski, 1867**		
	Ammobatoides schachti Schwarz, 1988	
	Ammobatoides schwarzi Wood, 2023	X
	Ammobatoides scriptus (Gerstäcker, 1869)	
***Schmiedeknechtia* Friese, 1896**		
	Schmiedeknechtia oraniensis Friese, 1896	
Ancylaini Michener, 1944		
***Ancyla* Lepeletier, 1841**		
	Ancyla brevis Dours, 1873	
	Ancyla oraniensis Lepeletier, 1841	
Anthophorinae Dahlbom, 1835		
***Amegilla* Friese, 1897**		
	Amegilla albigena (Lepeletier, 1841)	
	Amegilla andresi (Friese, 1914)	
	Amegilla byssina (Klug, 1845)	
	Amegilla fasciata (Fabricius, 1775)	

.....continued on the next page

TABLE 1. (Continued)

Amegilla magnilabris (Fedchenko, 1875)
Amegilla mucorea (Klug, 1845)
Amegilla ochroleuca (Pérez, 1879)
Amegilla quadrifasciata (de Villers, 1789)
Amegilla talaris (Pérez, 1895)
Amegilla velocissima (Fedchenko, 1875)

***Anthophora* Latreille, 1803**

Anthophora aestivalis (Panzer, 1801)
Anthophora affinis Brullé, 1833
Anthophora agama Radoszkowski, 1868
Anthophora ahlamae Rasmont & Wood, 2024
Anthophora albicilla Pérez, 1895
Anthophora albosignata (Friese, 1896)
Anthophora alternans (Klug, 1845)
Anthophora atriceps Pérez, 1879
Anthophora atroalba Lepeletier, 1841
Anthophora balneorum Lepeletier, 1841
Anthophora bimaculata (Panzer, 1798)
Anthophora blanda Pérez, 1895
Anthophora calcarata Lepeletier, 1841
Anthophora crassipes Lepeletier, 1841
Anthophora crinipes Smith, 1854
Anthophora dispar Lepeletier, 1841
Anthophora extricata Priesner, 1957
Anthophora fayoumensis Priesner, 1957
Anthophora femorata (Olivier, 1789)
Anthophora ferruginea Lepeletier, 1841
Anthophora flabellata Priesner, 1957
Anthophora fulvitarsis Brullé, 1833
Anthophora fulvodimidiata Dours, 1869
Anthophora hermanni Schwarz & Gusenleitner, 2003
Anthophora hispanica (Fabricius, 1787)
Anthophora holoxantha Pérez, 1895
Anthophora humilis (Spinola, 1383)
Anthophora kapnoptera Alfken, 1936
Anthophora libyphaenica Gribodo, 1893
Anthophora mucida Gribodo, 1873
Anthophora plumipes (Pallas, 1772)
Anthophora podagra Lepeletier, 1841
Anthophora priesneri Alfken, 1932
Anthophora pubescens (Fabricius, 1781)
Anthophora pulverosa Smith, 1854
Anthophora quadricolor (Erichson, 1840)
Anthophora retusa (Linnaeus, 1758)

.....continued on the next page

TABLE 1. (Continued)

	Anthophora rivolleti Pérez, 1895	
	Anthophora robusta (Klug, 1845)	
	Anthophora romandii Dours, 1869	
	Anthophora scopipes Spinola, 1838	
	Anthophora segnis Eversmann, 1852	
	Anthophora semirufa (Friese, 1898)	
	Anthophora senescens Lepeletier, 1841	
	Anthophora subterranea (Germar, 1826)	
	Anthophora tarsalis Priesner, 1957	
	Anthophora tridentella Priesner, 1957	
	Anthophora ventilabris Lepeletier, 1841	
	Anthophora vidua (Klug, 1845)	
	Anthophora wegelini Friese, 1914	
Bombini Latreille, 1802		
***Bombus* Latreille, 1802**		
	Bombus lapidarius (Linnaeus, 1758)	
	Bombus laesus Morawitz, 1875	
	Bombus ruderatus (Fabricius, 1775)	
	Bombus terrestris (Linnaeus, 1758)	
	Bombus vestalis (Geoffroy, 1785)	
Ceratinini Latreille, 1802		
***Ceratina* Latreille, 1802**		
	Ceratina albosticta Cockerell, 1931	
	Ceratina callosa (Fabricius, 1794)	
	Ceratina chalybea Chevrier, 1872	
	Ceratina citriphila Cockerell, 1935	
	Ceratina cucurbitina (Rossi, 1792)	
	Ceratina dallatorreana Friese, 1896	
	Ceratina dentiventris Gerstäcker, 1869	
	Ceratina maghrebensis Daly, 1983	
	Ceratina mocsaryi Friese, 1896	
	Ceratina parvula Smith, 1854	
	Ceratina saundersi Daly, 1983	
	Ceratina tarsata Morawitz, 1872	
	Ceratina verhoeffi Terzo & Rasmont, 1997	X
Epeolini Robertson, 1903		
***Epeolus* Latreille, 1802**		
	Epeolus aureovestitus Dours, 1873	
	Epeolus collaris Pérez, 1895	
	Epeolus fallax Morawitz, 1872	
	Epeolus flavociliatus Friese, 1899	
	Epeolus ibericus Bogusch, 2018	
	Epeolus intermedius Pérez, 1884	
	Epeolus laevifrons Bischoff, 1930	

.....continued on the next page

TABLE 1. (Continued)

	Epeolus priesneri Bogusch, 2021	
	Epeolus subrufescens Saunders, 1908	
	Epeolus transitorius Eversmann, 1852	
	Epeolus variegatus (Linnaeus, 1758)	
Eucerini Latreille, 1802		
***Eucera* Scopoli, 1770**		
	Eucera algira Lepeletier, 1841	
	Eucera andresi (Alfken, 1926)	
	Eucera atricornis Fabricius, 1793	
	Eucera bequaerti Alfken, 1914	
	Eucera biscrensis (Alfken, 1933)	
	Eucera brachycera (Gribodo, 1893)	
	Eucera clypeata Erichson, 1835	
	Eucera colaris Dours, 1873	
	Eucera confinis Pérez, 1895	
	Eucera cuniculina Klug, 1845	
	Eucera dalmatica Lepeletier, 1841	
	Eucera dimidiata Brullé, 1833	
	Eucera elongatula Vachal, 1907	
	Eucera ferruginea Lepeletier, 1841	
	Eucera genofevae Vachal, 1907	
	Eucera grisea Fabricius, 1793	
	Eucera hispana Lepeletier, 1841	
	Eucera lanuginosa Klug, 1845	
	Eucera maroccana (Dusmet, 1928)	
	Eucera mauritaniae Tkalců, 1984	X
	Eucera metallescens (Morawitz, 1888)	
	Eucera nadigi (Schulthess, 1924)	X
	Eucera nigra Lepeletier, 1841	
	Eucera nigrifacies Lepeletier, 1841	
	Eucera nigrilabris Lepeletier, 1841	
	Eucera notata Lepeletier, 1841	
	Eucera numida Lepeletier, 1841	
	Eucera obliterata Pérez, 1895	
	Eucera obscura (Brullé, 1833)	
	Eucera occidentalis Risch, 1999	X
	Eucera oraniensis Lepeletier, 1841	
	Eucera polita Pérez, 1895	
	Eucera pumila Klug, 1845	
	Eucera rufa (Lepeletier, 1841)	
	Eucera ruficollis (Brullé, 1833)	
	Eucera saundersi Friese, 1899	
	Eucera spatulata Gribodo, 1893	
	Eucera squamosa Lepeletier, 1841	

.....continued on the next page

TABLE 1. (Continued)

	Eucera tricincta Erichson, 1835	
	Eucera vachali Pérez, 1895	
	Eucera vidua Lepeletier, 1841	
	Eucera warnckei Risch, 1999	
***Tetralonia* Spinola, 1839**		
	Tetralonia agadirensis (Benoist, 1943)	X
	Tetralonia atrata Klug, 1845	
	Tetralonia dentata (Germar, 1839)	
	Tetralonia fulvescens Giraud, 1863	
	Tetralonia nigriceps Morawitz, 1894	
	Tetralonia nigrifacies Dours, 1873	
	Tetralonia ruficornis (Fabricius, 1804)	
	Tetralonia strigata (Lepeletier, 1841)	
Melectini Westwood, 1839		
***Melecta* Latreille, 1802**		
	Melecta aegyptiaca Radoszkowski, 1876	
	Melecta albifrons (Forster, 1771)	
	Melecta duodecimmaculata (Rossi, 1790)	
	Melecta grandis Lepeletier, 1841	
	Melecta guilochei Dusmet y Alonso, 1915	
	Melecta italica Radoszkowski, 1876	
	Melecta leucorhyncha Gribodo, 1893	
	Melecta luctuosa (Scopoli, 1770)	
	Melecta prophanta Lieftinck, 1980	
***Thyreus* Panzer, 1806**		
	Thyreus affinis (Morawitz, 1874)	
	Thyreus elegans (Morawitz, 1877)	
	Thyreus hellenicus Lieftinck, 1968	
	Thyreus histrionicus (Illiger, 1806)	
	Thyreus mauretaniensis (Strand, 1911)	
	Thyreus orbatus (Lepeletier, 1841)	
	Thyreus ramosus (Lepeletier, 1841)	
	Thyreus rasmonti Wood, 2023	
	Thyreus tricuspis (Pérez, 1883)	
	Thyreus truncatus (Pérez, 1884)	
Nomadini Latreille, 1802		
***Nomada* Scopoli, 1770**		
	Nomada accentifera Pérez, 1895	
	Nomada agrestis Fabricius, 1787	
	Nomada algira Mocsáry, 1883	
	Nomada ariasi Dusmet, 1913	
	Nomada barbilabris Pérez, 1895	
	Nomada basalis Herrich-Schäffer, 1839	
	Nomada beaumonti Schwarz, 1967	

.....continued on the next page

TABLE 1. (Continued)

Nomada biblica Schwarz, Smit & Ockermüller, 2019	
Nomada bifasciata Olivier, 1811	
Nomada bispinosa Mocsáry, 1883	
Nomada blepharipes Schmiedeknecht, 1882	
Nomada brevis Saunders, 1908	
Nomada cadiza Schwarz & Gusenleitner, 2013	
Nomada carnifex Mocsáry, 1883	
Nomada cleopatra Schwarz, 1989	
Nomada concolor Schmiedeknecht, 1882	
Nomada coronata Pérez, 1895	
Nomada cristata Pérez, 1895	
Nomada dira Schmiedeknecht, 1882	
Nomada discedens Pérez, 1884	
Nomada discrepans Schmiedeknecht, 1882	
Nomada distinguenda Morawitz, 1874	
Nomada dolosa Mocsáry, 1883	
Nomada duplex Smith, 1854	
Nomada fallax Pérez, 1913	
Nomada femoralis Morawitz, 1869	
Nomada fenestrata Lepeletier, 1841	
Nomada flavoguttata (Kirby, 1802)	
Nomada flavoscutellata Schwarz & Smit, 2018	X
Nomada fucata Panzer, 1798	
Nomada fulvicornis Fabricius, 1793	
Nomada furva Panzer, 1798	
Nomada fuscipennis Lepeletier, 1841	
Nomada glaucopis Pérez, 1890	
Nomada hispanica Dusmet, 1913	
Nomada ibanezi Dusmet y Alonso, 1915	
Nomada insignipes Schmiedeknecht, 1882	
Nomada integra Brullé, 1833	
Nomada italica Dalla Torre & Friese, 1894	
Nomada judaica Schwarz & Smit, 2018	
Nomada keroanensis Pérez, 1895	
Nomada kohli Schmiedeknecht, 1882	
Nomada linsenmaieri Schwarz, 1974	
Nomada maculicornis Pérez, 1884	
Nomada marshamella (Kirby, 1802)	
Nomada marrakechi Schwarz & Smit, 2020	X
Nomada mauritanica Lepeletier, 1841	
Nomada melanura Mocsáry, 1883	
Nomada merceti Alfken, 1909	
Nomada micronycha Pérez, 1902	
Nomada mideltiaca Schwarz, Smit & Ockermüller, 2019	

.....continued on the next page

TABLE 1. (Continued)

	Nomada minuscula Noskiewicz, 1930	
	Nomada mutabilis Morawitz, 1870	
	Nomada mutica Morawitz, 1872	
	Nomada nigrovaria Pérez, 1895	
	Nomada nitida Schwarz, 1977	
	Nomada nobilis Herrich-Schäffer, 1839	
	Nomada numida Lepeletier, 1841	
	Nomada ortegai Dusmet y Alonso, 1915	X
	Nomada panurgina Morawitz, 1869	
	Nomada panurginoides Saunders, 1908	
	Nomada pectoralis Morawitz, 1877	
	Nomada pruinosa Pérez, 1895	
	Nomada regli Schwarz, Smit & Ockermüller, 2020	X
	Nomada rhenana Morawitz, 1872	
	Nomada rubiginosa Pérez, 1884	
	Nomada sabulosa Radoszkowski, 1876	
	Nomada sanguinea Smith, 1854	
	Nomada serricornis Pérez, 1884	
	Nomada sexfasciata Panzer, 1799	
	Nomada sheppardana (Kirby, 1802)	
	Nomada stigma Fabricius, 1804	
	Nomada striata Fabricius, 1793	
	Nomada subcornuta (Kirby, 1802)	
	Nomada succincta Panzer, 1798	
	Nomada tridentirostris Dours, 1873	
	Nomada zonata Panzer, 1798	
Xylocopini Latreille, 1802		
***Xylocopa* Latreille, 1802**		
	Xylocopa amedaei Lepeletier, 1841	
	Xylocopa cantabrita Lepeletier, 1841	
	Xylocopa iris (Christ, 1791)	
	Xylocopa pubescens Spinola, 1838	
	Xylocopa valga Gerstäcker, 1872	
	Xylocopa violacea (Linnaeus, 1758)	
Colletidae Lepeletier, 1841		
Colletini Latreille, 1802		
***Colletes* Latreille, 1802**		
	Colletes abeillei Pérez, 1903	
	Colletes acutiformis Noskiewicz, 1936	
	Colletes acutus Pérez, 1903	
	Colletes albomaculatus (Lucas, 1849)	
	Colletes atlassus Kuhlmann, 2002	X
	Colletes biskrensis Noskiewicz, 1936	
	Colletes canescens Smith, 1853	

.....continued on the next page

TABLE 1. (Continued)

	Colletes coriandri Pérez, 1895	
	Colletes daourus Warncke, 1978	
	Colletes diodontus Benoist, 1957	
	Colletes dusmeti Noskiewicz, 1936	
	Colletes eatoni Morice, 1904	
	Colletes elegans Noskiewicz, 1936	
	Colletes escalerai Noskiewicz, 1936	
	Colletes formosus Pérez, 1902	
	Colletes foveolaris Pérez, 1903	
	Colletes gallicus Radoszkowski, 1891	
	Colletes intricans Spinola, 1838	
	Colletes lacunatus Dours, 1872	
	Colletes ligatus Erichson, 1835	
	Colletes maroccanus Warncke, 1978	
	Colletes minutus Kuhlmann, 2002	X
	Colletes nanus Friese, 1898	
	Colletes nigricans Gistel, 1857	
	Colletes niveatus Kuhlmann, 2002	X
	Colletes noskiewiczi Cockerell, 1942	
	Colletes perezi Morice, 1904	
	Colletes pumilus Morice, 1904	
	Colletes similis Schenck, 1853	
	Colletes wahisi Kuhlmann, 2002	X
Hylaeini Viereck, 1916		
***Hylaeus* Fabricius, 1793**		
	Hylaeus absolutus (Gribodo, 1894)	
	Hylaeus albonotatus (Walker, 1871)	
	Hylaeus angustatus (Schenck, 1861)	
	Hylaeus atlassus (Warncke, 1981)	X
	Hylaeus beaumonti (Benoist, 1957)	
	Hylaeus biarmicus (Warncke, 1992)	
	Hylaeus brachycephalus (Morawitz, 1868)	
	Hylaeus brevicornis Nylander, 1852	
	Hylaeus clypearis (Schenck, 1853)	
	Hylaeus communis Nylander, 1852	
	Hylaeus conformis Förster, 1871	
	Hylaeus coriaceus (Pérez, 1895)	
	Hylaeus cornutus Curtis, 1831	
	Hylaeus difformis (Eversmann, 1852)	
	Hylaeus dilatatus (Kirby, 1802)	
	Hylaeus dinkleri (Friese, 1898)	
	Hylaeus euryscapus Förster, 1871	
	Hylaeus gazagnairei (Vachal, 1891)	
	Hylaeus gibbus Saunders, 1850	

.....continued on the next page

TABLE 1. (Continued)

	Hylaeus gredleri Förster, 1871	
	Hylaeus hyalinatus Smith, 1843	
	Hylaeus imparilis Förster, 1871	
	Hylaeus impressiventris (Benoist, 1960)	X
	Hylaeus lactipennis (Benoist, 1957)	
	Hylaeus lineolatus (Schenck, 1861)	
	Hylaeus livius (Warncke, 1992)	X
	Hylaeus longimaculus (Alfken, 1936)	
	Hylaeus luteobalteatus (Dours, 1872)	
	Hylaeus mauricus (Warncke, 1981)	
	Hylaeus melba (Warncke, 1992)	
	Hylaeus meridionalis Förster, 1871	
	Hylaeus nigritus (Fabricius, 1798)	
	Hylaeus oenanthe (Warncke, 1992)	X
	Hylaeus pictus (Smith, 1853)	
	Hylaeus pilosulus (Pérez, 1903)	
	Hylaeus punctulatissimus Smith, 1843	
	Hylaeus signatus (Panzer, 1798)	
	Hylaeus simus (Vachal, 1895)	
	Hylaeus soror (Pérez, 1903)	
	Hylaeus subbuteus (Warncke, 1992)	X
	Hylaeus sulphuripes (Gribodo, 1894)	
	Hylaeus taeniolatus Förster, 1871	
	Hylaeus variegatus (Fabricius, 1798)	
Halictidae Thomson, 1869		
Halictini Thomson, 1869		
***Halictus* Latreille, 1804**		
	Halictus brunnescens (Eversmann, 1852)	
	Halictus consobrinus Pérez, 1895	
	Halictus constantinensis Strand, 1910	
	Halictus fulvipes (Klug, 1817)	
	Halictus ifranensis Cockerell, 1931	X
	Halictus nadigi Blüthgen, 1934	X
	Halictus patellatus Morawitz, 1874	
	Halictus quadricinctus (Fabricius, 1777)	
	Halictus rubicundus (Christ, 1791)	
	Halictus rufipes (Fabricius, 1793)	
	Halictus scabiosae (Rossi, 1790)	
	Halictus senilis (Eversmann, 1852)	
***Lasioglossum* Curtis, 1833**		
	Lasioglossum aeratum (Kirby, 1802)	
	Lasioglossum albocinctum (Lucas, 1849)	
	Lasioglossum albovirens (Pérez, 1895)	
	Lasioglossum algericolellum (Strand, 1909)	

.....continued on the next page

TABLE 1. (Continued)

	Lasioglossum algirum (Blüthgen, 1923)	
	Lasioglossum angusticeps (Perkins, 1895)	
	Lasioglossum articulare (Pérez, 1895)	
	Lasioglossum aureolum (Pérez, 1903)	
	Lasioglossum berberum (Benoist, 1941)	
	Lasioglossum bimaculatum (Dours, 1872)	
	Lasioglossum brevicorne (Schenck, 1868)	
	Lasioglossum callizonium (Pérez, 1895)	
	Lasioglossum capitale (Pérez, 1903)	
	Lasioglossum clavipes (Dours, 1872)	
	Lasioglossum cleome Pauly, Ebmer & Grabener, 2017	
	Lasioglossum clypeare (Schenck, 1853)	
	Lasioglossum collopiense (Pérez, 1903)	
	Lasioglossum corvinum (Morawitz, 1877)	
	Lasioglossum costulatum (Kriechbaumer, 1873)	
	Lasioglossum crepusculum Ebmer, 2008	X
	Lasioglossum cristula (Pérez, 1895)	
	Lasioglossum discus (Smith, 1853)	
	Lasioglossum euxinicum Ebmer, 1972	
	Lasioglossum femorale (Saunders, 1908)	
	Lasioglossum gibber (Vachal, 1892)	
	Lasioglossum glabriusculum (Morawitz, 1872)	
	Lasioglossum grisellinum (Blüthgen, 1931)	
	Lasioglossum griseolum (Morawitz, 1872)	
	Lasioglossum immunitum (Vachal, 1895)	
	Lasioglossum interruptum (Panzer, 1798)	
	Lasioglossum leucozonium (Schrank, 1781)	
	Lasioglossum limbellum (Morawitz, 1876)	
	Lasioglossum littorale (Blüthgen, 1923)	
	Lasioglossum lucidulum (Schenck, 1861)	
	Lasioglossum malachurum (Kirby, 1802)	
	Lasioglossum marginatum (Brullé, 1833)	
	Lasioglossum masculum (Pérez, 1895)	
	Lasioglossum maurusium (Blüthgen, 1935)	
	Lasioglossum mediterraneum (Blüthgen, 1926)	
	Lasioglossum mesosclerum (Pérez, 1903)	
	Lasioglossum minutissimum (Kirby, 1802)	
	Lasioglossum morio (Fabricius, 1793)	
	Lasioglossum musculoides Ebmer, 1974	
	Lasioglossum nitidiusculum (Kirby, 1802)	
	Lasioglossum oraniense (Blüthgen, 1930)	
	Lasioglossum pallens (Brullé, 1833)	
	Lasioglossum pauliani (Benoist, 1941)	X
	Lasioglossum pauperatum (Brullé, 1833)	

.....continued on the next page

TABLE 1. (Continued)

Lasioglossum pauxillum (Schenck, 1853)	
Lasioglossum perclavipes (Blüthgen, 1934)	
Lasioglossum phoenicurum (Warncke, 1975)	
Lasioglossum prasinum (Smith, 1848)	
Lasioglossum pseudoleptocephalum (Blüthgen, 1923)	
Lasioglossum pseudoplanulum (Blüthgen, 1924)	
Lasioglossum punctatissimum (Schenck, 1853)	
Lasioglossum puncticolle (Morawitz, 1872)	
Lasioglossum pygmaeum (Schenck, 1853)	
Lasioglossum smeathmanellum (Kirby, 1802)	
Lasioglossum soror (Saunders, 1901)	
Lasioglossum sphecodimorphum (Vachal, 1892)	
Lasioglossum strictifrons (Vachal, 1895)	
Lasioglossum subhirtum (Lepeletier, 1841)	
Lasioglossum transitorium (Schenck, 1868)	
Lasioglossum villosulum (Kirby, 1802)	
Lasioglossum virens (Erichson, 1835)	
Lasioglossum xanthopus (Kirby, 1802)	
Lasioglossum yakourense (Saunders, 1908)	
***Seladonia* Robertson, 1918**	
Seladonia caelestis (Ebmer, 1976)	X
Seladonia cupida (Vachal, 1902)	
Seladonia gemmea (Dours, 1872)	
Seladonia gemmella Pauly, 2015	
Seladonia lucidipennis (Smith, 1853)	
Seladonia nasica (Morawitz, 1876)	
Seladonia ochropus (Blüthgen, 1923)	
Seladonia persephone (Ebmer, 1976)	
Seladonia pici (Pérez, 1895)	
Seladonia pollinosa (Sichel, 1860)	
Seladonia radoszkowskii (Vachal, 1902)	
Seladonia smaragdula (Vachal, 1895)	
Seladonia subaurata (Rossi, 1792)	
***Sphecodes* Latreille, 1804**	
Sphecodes africanus Lepeletier, 1841	
Sphecodes algeriensis Alfken, 1914	
Sphecodes alternatus Smith, 1853	
Sphecodes atlanticus Warncke, 1992	
Sphecodes atlassa Warncke, 1992	
Sphecodes crassanus Warncke, 1992	
Sphecodes crassus Thomson, 1870	
Sphecodes croaticus Meyer, 1922	
Sphecodes dusmeti Blüthgen, 1924	
Sphecodes ephippius (Linnaeus, 1767)	

.....continued on the next page

TABLE 1. (Continued)

	Sphecodes geofrellus (Kirby, 1802)	
	Sphecodes gibbus (Linnaeus, 1758)	
	Sphecodes hirtellus Blüthgen, 1923	
	Sphecodes intermedius Blüthgen, 1923	
	Sphecodes longuloides Blüthgen, 1923	
	Sphecodes majalis Pérez, 1903	
	Sphecodes marginatus von Hagens, 1882	
	Sphecodes monilicornis (Kirby, 1802)	
	Sphecodes niger von Hagens, 1874	
	Sphecodes olivieri Lepeletier, 1825	
	Sphecodes pellucidus Smith, 1845	
	Sphecodes pinguiculus Pérez, 1903	
	Sphecodes pseudofasciatus Blüthgen, 1924	
	Sphecodes puncticeps Thomson, 1870	
	Sphecodes rubicundus von Hagens, 1875	
	Sphecodes rubripes Spinola, 1838	
	Sphecodes ruficrus (Erichson, 1835)	
	Sphecodes spinulosus von Hagens, 1875	
	Sphecodes zangherii Noskiewicz, 1931	
Nomiini Robertson, 1904		
	***Nomiapis* Kirby, 1900**	
	Nomiapis bispinosa (Brullé, 1833)	
	Nomiapis rufiventris (Spinola, 1838)	
	***Pseudapis* Cockerell, 1919**	
	Pseudapis dixica (Warncke, 1976)	
	Pseudapis nilotica (Smith, 1875)	
	***Ceylalictus* Strand, 1913**	
	Ceylalictus desertorum (Blüthgen, 1925)	
	Ceylalictus punjabensis (Cameron, 1907)	
	Ceylalictus variegatus (Olivier, 1789)	
	***Nomioides* Schenck, 1867**	
	Nomioides bluethgeni Pesenko, 1979	
	Nomioides deceptor Blüthgen, 1937	
	Nomioides facilis (Smith, 1853)	
	Nomioides fortunatus Blüthgen, 1937	
	Nomioides minutissimus (Rossi, 1790)	
	Nomioides rotundiceps Handlirsch, 1888	
	Nomioides squamiger Saunders, 1908	
	Nomioides turanicus Morawitz, 1876	
Rophitini Schenck, 1866		
	***Dufourea* Lepeletier, 1841**	
	Dufourea atlantica Ebmer, 1993	X
	Dufourea brachycephala (Warncke, 1979)	
	Dufourea chagrina (Warncke, 1979)	

.....continued on the next page

TABLE 1. (Continued)

	Dufourea dysis Ebmer, 1993	X
	Dufourea exulans Ebmer, 1984	X
	Dufourea gaullei Vachal, 1897	
	Dufourea maroccana (Warncke, 1979)	X
	Dufourea paradoxa (Morawitz, 1867)	
	Dufourea petraea Ebmer, 1999	
	Dufourea similis Friese, 1898	
	Dufourea tingitana Ebmer, 1999	X
***Rophites* Spinola, 1808**		
	Rophites algirus Pérez, 1895	
	Rophites theryi Benoist, 1930	X
***Systropha* Illiger, 1806**		
	Systropha maroccana Warncke, 1977	X
	Systropha pici Pérez, 1895	
Megachilidae Latreille, 1802		
Anthidiini Ashmead, 1899		
***Afranthidium* Michener, 1948**		
	Afranthidium alternans (Klug, 1832)	
	Afranthidium carduele (Morawitz, 1875)	
	Afranthidium naefi (Benoist, 1950)	X
***Anthidiellum* Cockerell, 1904**		
	Anthidiellum africanum Kasparek, 2023	
	Anthidiellum strigatum (Panzer, 1805)	
***Anthidium* Fabricius, 1804**		
	Anthidium atlaskabirense Kasparek & Schwarz, 2020	X
	Anthidium auritum Klug, 1832	
	Anthidium berbericum Pasteels, 1981	X
	Anthidium bischoffi Mavromoustakis, 1954	
	Anthidium cingulatum Latreille, 1809	
	Anthidium diadema Latreille, 1809	
	Anthidium florentinum (Fabricius, 1775)	
	Anthidium luctuosum Gribodo, 1894	
	Anthidium manicatum (Linnaeus, 1758)	
	Anthidium tenebricosum Kasparek, 2025	X
	Anthidium oblongatum (Illiger, 1806)	
	Anthidium occidentale Kasparek, 2021	X
	Anthidium pulchellum Klug, 1832	
	Anthidium pullatum Morice, 1916	
	Anthidium punctatum Latreille, 1809	
	Anthidium taeniatum Latreille, 1809	
	Anthidium tesselatum Klug, 1832	
***Icteranthidium* Michener, 1948**		
	Icteranthidium afrum (Lepeletier, 1841)	
	Icteranthidium ferrugineum (Fabricius, 1787)	

.....continued on the next page

TABLE 1. (Continued)

	Icteranthidium grohmanni (Spinola, 1838)	
	Icteranthidium laterale (Latreille, 1809)	
***Pseudoanthidium* Friese, 1898**		
	Pseudoanthidium beaumonti (Benoist, 1950)	
	Pseudoanthidium microrubrum Kasparek, 2024	X
	Pseudoanthidium nanum (Mocsáry, 1880)	
	Pseudoanthidium ochrognathum (Alfken, 1933)	
	Pseudoanthidium octodentatum (Pérez, 1895)	
	Pseudoanthidium reticulatum (Mocsáry, 1884)	
	Pseudoanthidium royoi (Dusmet, 1915)	X
	Pseudoanthidium scapulare (Latreille, 1809)	
	Pseudoanthidium stigmaticorne (Dours, 1873)	
***Rhodanthidium* Isensee, 1927**		
	Rhodanthidium infuscatum (Erichson, 1835)	
	Rhodanthidium ordonezi (Dusmet y Alonso, 1915)	X
	Rhodanthidium siculum (Spinola, 1838)	
	Rhodanthidium sticticum (Fabricius, 1787)	
***Stelis* Panzer, 1806**		
	Stelis aegyptiaca (Radoszkowski, 1876)	
	Stelis breviuscula (Nylander, 1848)	
	Stelis maroccana Warncke, 1992	
	Stelis minuta Lepeletier & Serville, 1825	
	Stelis murina Pérez, 1884	
	Stelis nasuta (Latreille, 1809)	
	Stelis ornatula (Klug, 1808)	
	Stelis phaeoptera (Kirby, 1802)	
	Stelis punctulatissima (Kirby, 1802)	
	Stelis saxicola Warncke, 1992	
	Stelis signata (Latreille, 1809)	
	Stelis simillima Morawitz, 1876	
***Trachusa* Panzer, 1804**		
	Trachusa laeviventris (Dours, 1873)	
	Trachusa maghrebensis Kasparek, 2020	
	Trachusa varia (Olivier, 1789)	
Dioxyini Cockerell, 1902		
***Aglaoapis* Cameron, 1901**		
	Aglaoapis tridentata (Nylander, 1848)	
***Allodioxys* Popov, 1947**		
	Allodioxys limbiferus (Pérez, 1895)	
***Dioxys* Lepeletier & Serville, 1825**		
	Dioxys ardens Gerstäcker, 1869	
	Dioxys chalicodus Lucas, 1849	
	Dioxys cinctus (Jurine, 1807)	
	Dioxys heinrichi Warncke, 1977	

.....continued on the next page

TABLE 1. (Continued)

	Dioxys moestus Costa, 1883	
	Dioxys varipes De Stefani, 1887	
	***Eudioxys* Mavromoustakis, 1963**	
	Eudioxys quadrispinosus (Friese, 1899)	
	***Metadioxys* Popov, 1947**	
	Metadioxys formosa (Morawitz, 1875)	
	***Prodioxys* Friese, 1914**	
	Prodioxys carnea (Gribodo, 1894)	
	Prodioxys longiventris (Pérez, 1895)	
	Prodioxys rufiventris (Lepeletier, 1841)	
Fideliini		
	***Fidelia* Friese, 1899**	
	Fidelia ulrikei Warncke, 1980	X
Lithurgini Newman, 1834		
	***Lithurgus* Berthold, 1827**	
	Lithurgus cephalotes van der Zanden, 1977	X
	Lithurgus chrysurus Fonscolombe, 1834	
	Lithurgus cornutus (Fabricius, 1787)	
	Lithurgus tibialis Morawitz, 1875	
Megachilini Latreille, 1802		
	***Coelioxys* Latreille, 1809**	
	Coelioxys acanthurus (Illiger, 1806)	
	Coelioxys afer Lepeletier, 1841	
	Coelioxys argenteus Lepeletier, 1841	
	Coelioxys aurolimbatus Förster, 1853	
	Coelioxys brevis Eversmann, 1852	
	Coelioxys caudatus Spinola, 1838	
	Coelioxys conoideus (Illiger, 1806)	
	Coelioxys coturnix Pérez, 1884	
	Coelioxys decipiens Spinola, 1838	
	Coelioxys echinatus Förster, 1853	
	Coelioxys elegantulus Alfken, 1934	
	Coelioxys elongatus Lepeletier, 1841	
	Coelioxys emarginatellus Pasteels, 1982	
	Coelioxys emarginatus Förster, 1853	
	Coelioxys haemorrhoa Förster, 1853	
	Coelioxys inermis (Kirby, 1802)	
	Coelioxys obtusus Pérez, 1884	
	Coelioxys osmiae Alfken, 1928	
	Coelioxys rufescens Lepeletier & Serville, 1825	
	***Megachile* Latreille, 1802**	
	Megachile albipila Pérez, 1896	
	Megachile albisecta (Klug, 1817)	
	Megachile albohirta (Brullé, 1839)	

.....continued on the next page

TABLE 1. (Continued)

	Megachile apicalis Spinola, 1808	
	Megachile arabica Friese, 1901	
	Megachile argentata (Fabricius, 1793)	
	Megachile atlantica Benoist, 1934	
	Megachile callensis Ferton, 1914	
	Megachile calloleuca Cockerell, 1931	X
	Megachile centuncularis (Linnaeus, 1758)	
	Megachile cinnamomea Alfken, 1926	
	Megachile deceptoria Pérez, 1890	
	Megachile ericetorum Lepeletier, 1841	
	Megachile fertoni Pérez, 1895	
	Megachile incerta Radoszkowski, 1876	
	Megachile inexspectata Rebmann, 1968	
	Megachile lagopoda (Linnaeus, 1761)	
	Megachile leachella Curtis, 1828	
	Megachile lefebvrei (Lepeletier, 1841)	
	Megachile levistriga Alfken, 1934	
	Megachile marginata Smith, 1853	
	Megachile maritima (Kirby, 1802)	
	Megachile mauritaniae (Tkalců, 1992*)*	
	Megachile melanogaster Eversmann, 1852	
	Megachile melanota Pérez, 1895	
	Megachile mguildensis Benoist, 1940	
	Megachile micrargyrea Cockerell, 1931	X
	Megachile minutissima Radoszkowski, 1876	
	Megachile nasidens Friese, 1898	
	Megachile nigripes Spinola, 1838	
	Megachile opacifrons Pérez, 1897	
	Megachile parietina (Geoffroy, 1785)	
	Megachile patellimana Spinola, 1838	
	Megachile pusilla Pérez, 1884	
	Megachile rotundata (Fabricius, 1787)	
	Megachile rubrimana Morawitz, 1893	
	Megachile rufitarsis (Lepeletier, 1841)	
	Megachile sicula (Rossi, 1792)	
	Megachile thevestensis Ferton, 1908	
Osmiini Newman, 1834		
***Pseudoheriades* Peters, 1970**		
	Pseudoheriades moricei (Friese, 1897)	
***Chelostoma* Latreille, 1809**		
	Chelostoma campanularum (Kirby, 1802)	
	Chelostoma carinulum Pérez, 1895	
	Chelostoma edentulum Pérez, 1895	
	Chelostoma rapunculi (Lepeletier, 1841)	

.....continued on the next page

TABLE 1. (Continued)

***Haetosmia* Popov, 1952**	
Haetosmia circumventa (Peters, 1974)	
***Heriades* Spinola, 1808**	
Heriades crenulata Nylander, 1856	
Heriades discrepans Benoist, 1938	
Heriades rubicola Pérez, 1890	
Heriades truncorum (Linnaeus, 1758)	
Heriades wilmattae Cockerell, 1931	X
***Hofferia* Tkalců, 1984**	
Hofferia mauritanica (Lucas, 1846)	
***Hoplitis* Klug, 1807**	
Hoplitis acuticornis (Dufour & Perris, 1840)	
Hoplitis adunca (Panzer, 1798)	
Hoplitis africana (Warncke, 1990)	
Hoplitis alba (van der Zanden, 1994)	X
Hoplitis albiscopa (Friese, 1899)	
Hoplitis annulata (Latreille, 1811)	
Hoplitis anthocopoides (Schenck, 1853)	
Hoplitis antigae (Pérez, 1895)	
Hoplitis aristotelis (Warncke, 1990)	X
Hoplitis ayardi (Benoist, 1929)	X
Hoplitis barbigera (Benoist, 1951)	X
Hoplitis bassana (Warncke, 1991)	
Hoplitis batyamae (van der Zanden, 1986)	
Hoplitis brevispora (Warncke, 1992)	X
Hoplitis brunnescens (Benoist, 1950)	X
Hoplitis bubulca (van der Zanden, 1994)	
Hoplitis cadiza (Warncke, 1991)	
Hoplitis campanularis (Morawitz, 1877)	
Hoplitis clypeoincisa Müller, 2022	X
Hoplitis conosimilis van der Zanden, 1992	
Hoplitis cristatula (van der Zanden, 1990)	
Hoplitis ctenophora (Benoist, 1934)	
Hoplitis curtula (Pérez, 1896)	
Hoplitis epeoliformis (Ducke, 1899)	
Hoplitis erythrogastra (Mavromoustakis, 1954)	
Hoplitis fertoni (Pérez, 1891)	
Hoplitis fortispina (Pérez, 1895)	
Hoplitis freygessneri (Friese, 1899)	
Hoplitis goulemina (Warncke, 1991)	X
Hoplitis gregaria (Warncke, 1992)	
Hoplitis grumi (Morawitz, 1894)	
Hoplitis gusenleitneri (Warncke, 1991)	X
Hoplitis hartliebi (Friese, 1899)	

.....continued on the next page

TABLE 1. (Continued)

	Hoplitis herrmanni Müller, 2022	X
	Hoplitis hierichonica (Mavromoustakis, 1949)	
	Hoplitis hoggara (Warncke, 1992)	
	Hoplitis ilamana (van der Zanden, 1994)	
	Hoplitis insularis (Schmiedeknecht, 1886)	
	Hoplitis israelica (Warncke, 1991)	
	Hoplitis jheringii (Ducke, 1898)	
	Hoplitis jordanica (Warncke, 1991)	
	Hoplitis lamina (Pérez, 1895)	
	Hoplitis lecerfi (Benoist, 1929)	X
	Hoplitis longispina (Pérez, 1895)	
	Hoplitis loreicornis (Benoist, 1934)	X
	Hoplitis lucidula (Benoist, 1934)	X
	Hoplitis maghrebensis (Zanden, 1992)	
	Hoplitis marchali (Pérez, 1902)	
	Hoplitis maussi Müller, 2022	X
	Hoplitis meyeri (Benoist, 1934)	
	Hoplitis minima (von Schulthess, 1924)	
	Hoplitis moricei (Friese, 1899)	
	Hoplitis mucida (Dours, 1873)	
	Hoplitis nisa (Warncke, 1991)	
	Hoplitis occidentalis Müller, 2012	
	Hoplitis ochruros (Warncke, 1991)	
	Hoplitis oxypyga (Benoist, 1927)	
	Hoplitis paralias (Mavromoustakis, 1954)	
	Hoplitis peniculifera Müller, 2012	
	Hoplitis perezi (Ferton, 1895)	
	Hoplitis platalea (Warncke, 1990)	
	Hoplitis praestans (Morawitz, 1893)	
	Hoplitis prazi Müller, 2022	
	Hoplitis prosii Müller, 2022	X
	Hoplitis pulchella (Pérez, 1895)	
	Hoplitis pungens (Benoist, 1929)	
	Hoplitis quadrispina (Tkalců, 1992)	
	Hoplitis quinquespinosa (Friese, 1899)	
	Hoplitis rugidorsis (Pérez, 1895)	
	Hoplitis saundersi (Vachal, 1891)	
	Hoplitis sedivyi Müller, 2022	X
	Hoplitis sidiifnii Müller, 2022	X
	Hoplitis simula (Gribodo, 1894)	
	Hoplitis sinuata (Pérez, 1895)	
	Hoplitis speculum (Benoist, 1934)	
	Hoplitis sternocarinata Müller, 2022	X
	Hoplitis taenioceras (Benoist, 1927)	

.....continued on the next page

TABLE 1. (Continued)

	Hoplitis tagmouta (Warncke, 1991)	X
	Hoplitis tenuiserrata (Benoist, 1950)	X
	Hoplitis teucrii (Benoist, 1927)	
	Hoplitis tigrina (Morawitz, 1872)	
	Hoplitis trabutiana Müller, 2025	X
	Hoplitis tricolor (Saunders, 1908)	
	Hoplitis tridentata (Dufour & Perris, 1840)	
	Hoplitis ursina (Friese, 1920)	
	Hoplitis villiersi (Benoist, 1950)	
	Hoplitis weibeli Müller, 2022	X
	Hoplitis widmeri Müller, 2022	X
	Hoplitis zaianorum (Benoist, 1927)	
	Hoplitis zonalis (Pérez, 1895)	
***Osmia* Panzer, 1806**		
	Osmia alfkenii Ducke, 1900	
	Osmia anceyi Pérez, 1879	
	Osmia argyropyga Pérez, 1879	
	Osmia bicornis (Linnaeus, 1758)	
	Osmia brevicornis (Fabricius, 1798)	
	Osmia caerulescens (Linnaeus, 1758)	
	Osmia cephalotes Morawitz, 1870	
	Osmia cinnabarina Pérez, 1895	
	Osmia corniculata (van der Zanden, 1989)	
	Osmia cyanoxantha Pérez, 1879	
	Osmia derasa Pérez, 1895	
	Osmia dido Gribodo, 1894	
	Osmia dimidiata Morawitz, 1871	
	Osmia elbaba Warncke, 1992	
	Osmia emarginata Lepeletier, 1841	
	Osmia fallax Pérez, 1895	
	Osmia ferruginea Latreille, 1811	
	Osmia frieseana Ducke, 1899	
	Osmia gallarum Spinola, 1808	
	Osmia gemmea Pérez, 1896	
	Osmia gracilicornis Pérez, 1895	
	Osmia heteracantha Pérez, 1895	
	Osmia labialis Pérez, 1879	
	Osmia latreillei (Spinola, 1806)	
	Osmia lazulina Benoist, 1928	
	Osmia leaiana (Kirby, 1802)	
	Osmia leucopyga Ducke, 1899	
	Osmia lhotelleriei Pérez, 1887	
	Osmia ligurica Morawitz, 1868	
	Osmia lobata Friese, 1899	

.....continued on the next page

TABLE 1. (Continued)

		Osmia longipalpa Müller, 2022	X
		Osmia lunata Benoist, 1928	
		Osmia melanogaster Spinola, 1808	
		Osmia nasoproducta Ferton, 1909	
		Osmia nasuta (Friese, 1899)	
		Osmia nigrocalcaribus Müller, 2022	
		Osmia niveata (Fabricius, 1804)	
		Osmia niveocincta Pérez, 1897	
		Osmia notata (Fabricius, 1804)	
		Osmia pinguis Pérez, 1895	
		Osmia punica Pérez, 1896	
		Osmia rufigastra Lepeletier, 1841	
		Osmia rufohirta Latreille, 1811	
		Osmia rutila Erichson, 1835	
		Osmia scutellaris Morawitz, 1868	
		Osmia signata Erichson, 1835	
		Osmia soror Pérez, 1896	
		Osmia sparsipuncta Alfken, 1914	
		Osmia spinicoxa Müller, 2020	X
		Osmia submicans Morawitz, 1870	
		Osmia tergestensis Ducke, 1897	
		Osmia tingitana Benoist, 1969	
		Osmia tricornis Latreille, 1811	
		Osmia tunensis (Fabricius, 1787)	
		Osmia uncicornis Pérez, 1895	
		Osmia versicolor Latreille, 1811	
	***Protosmia* Ducke, 1900**		
		Protosmia capitata (Schletterer, 1889)	
		Protosmia curviseta Müller, 2022	X
		Protosmia decipiens (Benoist, 1935)	X
		Protosmia exenterata (Pérez, 1895)	
		Protosmia glutinosa (Giraud, 1871)	
		Protosmia luctuosa (Lucas, 1848)	
		Protosmia magna Müller, 2022	X
		Protosmia schwarzi Griswold, 2013	
		Protosmia stigmatica (Pérez, 1895)	
	***Stenoheriades* Tkalců, 1984**		
		Stenoheriades maroccana (Benoist, 1928)	
	***Wainia* Tkalců, 1980**		
		Wainia sexsignata (Benoist, 1950)	X
Pararhophitini			
	***Pararhophites* Friese, 1898**		
		Pararhophites quadratus Friese, 1898	
Melittidae Schenck, 1860			

.....continued on the next page

TABLE 1. (Continued)

Dasypodaini Sagemehl, 1882		
	***Dasypoda* Latreille, 1802**	
		Dasypoda albimana Pérez, 1905
		Dasypoda cingulata Erichson, 1835
		Dasypoda crassicornis Friese, 1896
		Dasypoda dusmeti Quilis, 1928
		Dasypoda hirtipes (Fabricius, 1793)
		Dasypoda maura Pérez, 1895
		Dasypoda oraniensis Pérez, 1895
		Dasypoda schwarzi Radchenko & Michez, 2022
		Dasypoda sinuata Pérez, 1895
		Dasypoda visnaga (Rossi, 1790)
Macropidini		
	***Promelitta* Warncke, 1977**	
		Promelitta alboclypeata (Friese, 1900)
Melittini		
	***Melitta* Kirby, 1802**	
		Melitta aegyptiaca (Radoszkowski, 1891)
		Melitta maura (Pérez, 1896)
		Melitta nigricans Alfken, 1905
		Melitta schmiedeknechti Friese, 1898

Acknowledgements

We would like to thank Vincent Leclercq for providing data that support the new country records. We are grateful to Cory Sheffield (Royal Saskatchewan Museum, Canada) for identifying and resolving the long-running nomenclatural issues surrounding *Andrena albohirta*. We also thank John S. Ascher for his valuable help with taxonomic issues concerning the status of *Anthidium nigrum.* Funding for Ahlam Sentil, Paolo Rosa and Denis Michez was provided by the DG ENV project ORBIT (Taxonomic Resources for European Bees, contract No. 09.029901/2021/848268/SER/ENV.D.2). This work was supported by Institute of Biosciences, University of Mons.

References

Aglagane, A., Carra, E., Ravioli, V., Er-Rguibi, O., Santo, E., Hassan, E., El Mouden, E.H., Aourir, M. & Frasnelli, M. (2023) Molecular examination of nosemosis and foulbrood pathogens in honey bee populations from southeastern Morocco. *Apidologie*, 54, 42 https://doi.org/10.1007/s13592-023-01022-y

Aglagane, A., Ravaioli, V., Er-Rguibi, O., Lavazza, A., Carra, E., Rabitti, A., El Mouden, E.H., Aourir, M. & Frasnelli, M. (2024) Molecular investigation and infection patterns of seven viruses of honey bee (*Apis mellifera* L, 1758) populations from southeastern Morocco. *Acta Tropica*, 257, 107316. https://doi.org/10.1016/j.actatropica.2024.107316

Al-Shahat, A.M. & Hossni, M.T. (2020) Taxonomic revision of genus *Lithurgus* (Hymenoptera: Megachilidae) of Egypt with a new record. *Egyptian Academic Journal of Biological Sciences*, 13 (2), 215 –227. https://doi.org/10.21608/eajbsa.2020.90870

Ascher, J.S. & Pickering, J. (2021) Discover Life bee species guide and world checklist (Hymenoptera: Apoidea: Anthophila). Available from: https://www.discoverlife.org/mp/20q?guide=Apoidea_species (accessed 7 October 2022)

Ascher, J.S. & Pickering, J. (2025) Discover Life—Bee species guide and world checklist (Hymenoptera: Apoidea: Anthophila). Available from: http://www.discoverlife.org/mp/20q?guide=Apoidea_species (accessed 3 February 2025)

Astafurova, Y.V., Proshchalykin, M.Y. & Schwarz, M. (2019) The distribution of the genus *Sphecodes* Latreille (Hymenoptera,

Halictidae) of the Arabian Peninsula and surrounding countries with description of hitherto unknown female of *S. atlanticus* Warncke, 1992 and male of *S. dathei* Schwarz, 2010. *Zookeys*, 872, 13–40.
https://doi.org/10.3897/zookeys.872.35361
Benoist, R. (1927) Hyménoptères mellifères nouveaux du Maroc. *Bulletin de la Société des Sciences Naturelles du Maroc*, 7, 169–174.
https://doi.org/10.3406/bsef.1928.27976
Benoist, R. (1928) Hyménoptères mellifères nouveaux du Maroc. *Bulletin de la Société des Sciences Naturelles du Maroc*, 8, 212–215.
Benoist, R. (1930) Hyménoptères méllifères nouveaux du Maroc. *Bulletin de la Société des Sciences Naturelles du Maroc*, 9, 120–121.
Benoist, R. (1937) Hyménoptères melliféres nouveaux du Maroc. *Bulletin de la Société des Sciences Naturelles du Maroc*, 17, 163–165.
Benoist, R. (1941) Recoltes de R. Paulian et A. Villiers dans le Haut Atlas marocain, 1938 (XVIII note). Hyménoptères Apides. *Annales de la Société entomologique de France*, 79, 79–82.
Benoist, R. (1950) Hyménoptères récoltés par une mission suisse au Maroc (1947) Apidae, Megachilinae. *Bulletin de la Société des Sciences Naturelles du Maroc*, 30, 183–193.
Benoist, R. (1957) Hyménoptères récoltés par une mission Suisse au Maroc (1947) Apidae (Prosopidinae, Colletinae). *Bulletin de la Société des Sciences Naturelles et Physiques du Maroc*, 37, 161–166.
Benoist, R. (1961) Hyménoptères récoltés par une mission Suisse au Maroc (1947) Apidae, genre Andrena. *Bulletin de la Société des sciences naturelles et Physiques du Maroc*, 41, 85–95.
Bogusch, P. & Hadrava, J. (2018) European bees of the genera *Epeolus* Latreille, 1802 and *Triepeolus* Robertson, 1901 (Hymenoptera: Apidae: Nomadinae: Epeolini) taxonomy, identification key, distribution, and ecology. *Zootaxa*, 4437 (1), 1–60.
https://doi.org/10.11646/zootaxa.4437.1.1
Bogusch, P. & Straka, J. (2012) Review and identification of the cuckoo bees of Central Europe (Hymenoptera: Halictidae: Sphecodes). *Zootaxa*, 3311 (1), 1–41.
https://doi.org/10.11646/zootaxa.3311.1.1
Bogusch, P. (2021) The cuckoo bees of the genus *Epeolus* Latreille, 1802 (Hymenoptera, Apidae) from the Middle East and North Africa with descriptions of two new species. *Journal of Hymenoptera Research*, 68, 45–68.
https://doi.org/10.3897/jhr.84.67049
Bogusch, P. (2023) European cuckoo bees of the tribe Dioxyini (Hymenoptera, Megachilidae): distribution, annotated checklist and identification key. *Journal of Hymenoptera Research*, 96, 599–628.
https://doi.org/10.3897/jhr.96.104957
Brasero, N., Ghisbain, G., Lecocq, T., Michez, D., Valterová, I., Biella, P., Monfared, A., Williams, P.H., Rasmont, P. & Martinet, B. (2021) Resolving the species status of overlooked West-Palaearctic bumblebees. *Zoologica Scripta*, 50, 616–632.
https://doi.org/10.1111/zsc.12486
Cockerell, T.D.A. (1931) The heriadine bees of Morocco. *The Entomologist*, 64, 159–161.
Cockerell, T.D.A. (1937) Bees from Morocco. *American Museum Novitates*, 960, 1–9.
Cockerell, T.D.A. (1938b) Halictine bees from Morocco. *American Museum Novitates*, 997, 1–9.
Cros, A. (1939) considérations générales sur le genre *Lithurgus* Latreille et biologie du *Lithurgus tibialis*. *Bulletin de la Société Fouad d'Entomologie*, 22, 37–57.
Danforth, B.N., Sauquet, H. & Packer, L. (1999) Phylogeny of the bee genus *Halictus* (Hymenoptera: Halictidae) based on parsimony and likelihood analyses of nuclear EF-1a sequence data. *Molecular Phylogenetics and Evolution*, 13 (3), 605–618.
https://doi.org/10.1006/mpev.1999.0670
Dorchin, A., Danforth, B. & Griswold, T. (2018) A new genus of eucerine bees endemic to southwestern North America revealed in phylogenetic analyses of the *Eucera* complex (Hymenoptera: Apidae: Eucerini). *Arthropod Systematics & Phylogeny*, 76 (2), 215–234.
https://doi.org/10.3897/asp.76.e31927
Dorchin, A. (2023) Revision of the historical type collections of long-horn bees (Hymenoptera: Apidae: Eucerini) preserved in the Muséum national d'Histoire naturelle, Paris. *Annales de la Société entomologique de France*, 59 (3), 1–35.
https://doi.org/10.1080/00379271.2023.2192693
Dusmet y Alonso, J.M. (1915) Ápidos de Marruecos de los Gen. *Anthidium*, *Nomada*, *Melecta*, *Crocisa*, *Coelioxys* y *Phiarus*. *Memorias de la Real Sociedad Española de Historia Natural*, 8, 293–334.
Ebmer, A.W. (1976) *Halictus* und *Lasioglossum* aus Marokko. *Linzer biologische Beiträge*, 8, 205–266.
Ebmer, A.W. (1985) *Halictus* und *Lasioglossum* aus Marokko (Hymenoptera, Apoidea, Halictidae). Erster Nachtrag. *Linzer biologische Beiträge*, 17, 271–293.
Eickwort, G.C. (1980) Two European species of *Chelostoma* established in New York State (Hymenoptera: Megachilidae). *Psyche*, 87, 315–323.
https://doi.org/10.1155/1980/24124
El Abdouni, I., Lhomme, P., Christmann, S., Dorchin, A., Sentil, A., Pauly, A., Hamroud, L., Ihsane, O., Reverté, S., Patiny,

S., Wood, T.J., Bencharki, Y., Rasmont, P. & Michez, D. (2022) Diversity and relative abundance of insect pollinators in Moroccan agroecosystems. *Frontiers in Ecology and Evolution*, 10, 1–11.
https://doi.org/10.3389/fevo.2022.866581

Fateryga, A.V., Proshchalykin. M.Y., Astafurova, Y.V. & Popov, I.B. (2018) New records of megachilid bees (Hymenoptera, Megachilidae) from the North Caucasus and neighbouring regions of Russia. *Entomological Review*, 98, 1165–1174.
https://doi.org/10.1134/S0013873818090026

Fedchenko, A.P. (1875) Key and descriptions of new species of the genus *Anthophora*. *In*: Morawitz, F.F. (Ed.), *Travel to Turkestan by the Member-Founder of the Society A.P. Fedchenko Accomplished from the Imperial Society of Naturalists, Anthropologists, and Ethnographists on a Commission from the General-Governor of Turkestan K.P. von Kaufmann. Vol. 2. Zoogeographical Investigations. Part V. Division 7. Bees (Mellifera), Part I (Apidae genuinae).* Izvestiya Imperatorskago Obshchestva Lyubiteley Estestvoznaniya, Antropologii i Etnografii, pp. 1–160.

Freitas, F.V., Branstetter, M.G., Franceschini-Santos, V.H., Dorchin, A., Wright, K.W., López-Uribe, M.M., Griswold, T., Silveira, F.A. & Almeida E.A.B. (2023) UCE phylogenomics, biogeography, and classification of long-horned bees (Hymenoptera: Apidae: Eucerini), with insights on using specimens with extremely degraded DNA. *Insect Systematics and Diversity*, 7 (4), 3.
https://doi.org/10.1093/isd/ixad012

Friese, H. (1897) Species aliquot novæ vel minus cognitæ generis *Anthidium* Fabr. *Természetrajzi Füzetek*, 20, 437–441.

Gekière, A., Gérard, M., Potts, S.G., Michez, D. & Ghisbain, G. (2025) Underlying mechanisms shaping wild bee decline. *Biological Journal of the Linnean Society*, 145, blaf043.
https://doi.org/10.1093/biolinnean/blaf043

Ghisbain, G., Rosa, P., Bogusch, P., Flaminio, S., Divelec, R., Dorchin, A., Kasparek, M., Kuhlmann, M., Litman, J., Rasmont, P., Risch, S., Stuart, R. P. M., Smit, J., Wood, T.J., Michez, D. & Reverté, S. (2023) The new annotated checklist of the wild bees of Europe (Hymenoptera: Anthophila). *Zootaxa*, 5327 (1), 1–147.
https://doi.org/10.11646/zootaxa.5327.1.1

Ghisbain, G., Thiery, W., Massonnet, F., Erazo, D., Rasmont, P., Michez, D. & Dellicour, S. (2024). Projected decline in European bumblebee populations in the twenty-first century. *Nature*, 628, 337–341.
https://doi.org/10.1038/s41586-023-06471-0

Ghisbain, G., Chittka, L. & Michez, D. (2025) Bumblebees. *Current Biology*, 35, R206–R211.
https://doi.org/10.1016/j.cub.2025.01.041

Ghisbain, G., Rosa, P., Bogusch, P., Brau, R., Carion, F., De Manincor, N., Devalez, J., Dorchin, A., Flaminio, S., Greil, H., Hölzler, G., Hopfenmüller, S., Kasparek, M., Kuhlmann, M., Le Divelec, R., Litman, Maugendre, A., J., Michez, D., Müller, A., Ortiz-Sánchez, F.J., Praz, C., Radchenko, V., Rasmont, P., Risch, S., Roberts, S.P.M., Santerre, R., Schmid-Egger, C., Sentil, A., Straka, J., Williams, P.H., Wood, T.J. & Reverté, S. (2025) The new annotated checklist of the wild bees of Europe (Hymenoptera: Anthophila)—version 2025. *Zootaxa*. [in press]

Gibbs, J., Brady, S., Kanda, K. & Danforth, B.N. (2012) Phylogeny of halictine bees supports a shared origin of eusociality for *Halictus* and *Lasioglossum* (Apoidea: Anthophila: Halictidae). *Molecular Phylogenetics and Evolution*, 65 (3), 926–939.
https://doi.org/10.1016/j.ympev.2012.08.013

Gibbs, J., Packer, L., Dumesh, S. & Danforth, B.N. (2013) Revision and reclassification of *Lasioglossum* (*Evylaeus*), *L.* (*Hemihalictus*) and *L.* (*Sphecodogastra*) in eastern North America (Hymenoptera: Apoidea: Halictidae). *Zootaxa*, 3672 (1), 1–117.
https://doi.org/10.11646/zootaxa.3672.1.1

Grabener, S. (2017) *Pollination syndromes and networks along an environmental gradient in southern Morocco*. Master Thesis, University of Hamburg, Hamburg, 227 pp.

Gusenleitner, F. & Schwarz, M. (2002) Weltweite Checkliste der Bienengattung *Andrena* mit Bemerkungen und Ergänzungen zu paläarktischen Arten (Hymenoptera, Apidae, Andreninae, *Andrena*). *Entomofauna*, 12, 1–1280.

Herrera, C.M. (2020) Gradual replacement of wild bees by honeybees in flowers of the Mediterranean Basin over the last 50 years. *Proceedings of the Royal Society B: Biological Sciences*, 287, 20192657.
https://doi.org/10.1098/rspb.2019.2657

International Commission on Zoological Nomenclature (ICZN) (1999) *International Code of Zoological Nomenclature. 4th Edition*. ITZN, London, xxx + 306 pp.

Kasparek, M. (2021) Revision and description of three new species of the Palaearctic wool carder bee subgenus *Gulanthidium* of the genus *Anthidium*. *Zootaxa*, 5040 (4), 482–506.
https://doi.org/10.11646/zootaxa.5040.4.2

Kasparek, M. (2022) *The Resin and wool carder bees (Anthidiini) of Europe and Western Turkey: Identification, distribution and biology*. Chimaira, Frankfurt, 292 pp.

Kasparek, M. (2024a) New species, new synonyms, and resurrected taxa: A review of West and Central Palaearctic members of the genus *Pseudoanthidium* (Apoidea: Megachilidae). *Zootaxa*, 5541 (1), 1–50.
https://doi.org/10.11646/zootaxa.5541.1.1

Kasparek, M. (2024b) A taxonomic review of Western Palaearctic and African wool carder bees of the genus *Anthidium* (Megachilidae: Anthidiini) with males armed with two acute spines on the apical visible tergum. *Integrative Systematics*, 7, 67–93.

https://doi.org/10.18476/2024.803576
Kasparek, M., Benarfa, N. & Sentil, A. (2024) Black bees in the desert: Description of a new species of wool carder bee (Apoidea, Anthidiini, *Anthidium*) from the northern Sahara with colouration atypical for xeric environments. *Contributions to Entomology*, 74, 181–191.
https://doi.org/10.3897/contrib.entomol.74.e125001
Kasparek, M., Hauser, M. & Schmid-Egger, C. (2023a) Taxonomic revision of the Afro-Arabian anthidiine bee *Pseudoanthidium ochrognathum* sensu lato (Apoidea: Anthidiini) based on morphological and genetic data. *Integrative Systematics*, 6 (2), 55–69.
https://doi.org/10.18476/2023.526995
Kasparek, M., Wood, T., Ferreira, S. & Benarfa, N. (2023b) Taxonomic status of the disjunct populations of the resin bee *Anthidiellum breviusculum* (Pérez, 1890) s.l. in the Mediterranean (Apoidea: Anthidiini). *Journal of Natural History*, 56, 2047–2063.
https://doi.org/10.1080/00222933.2022.2152749
Kasparek, M. & Schwarz, M. (2020) *Anthidium berbericum* Pasteels and *A. atlaskabirense* sp. n. (Apoidea: Anthidiini), two endemic pollinators in the Atlas Mountains in Morocco. *Annales de la Société entomologique de France*, 56, 395–404.
https://doi.org/10.1080/00379271.2020.1837008
Klein, A.M., Boreux, V., Fornoff, F., Mupepele, A.C. & Pufal, G. (2018) Relevance of wild and managed bees for human well-being. *Current Opinion in Insect Science*, 26, 82–88.
https://doi.org/10.1016/j.cois.2018.02.011
Kratochwil, A. (2021) Taxonomic re-evaluation of *Andrena cyanomicans* Pérez, 1895, *A. fratella* Warncke, 1968, *A. maderensis* Warncke, 1969, *A. mirna* Warncke, 1969, *A. notata* Warncke, 1968, and *A. portosanctana* Cockerell, 1922 (Hymenoptera, Anthophila). *Linzer Biologischen Beiträge*, 53, 631–699.
Kuhlmann, M. (2014) Checklist of the Western Palaearctic Bees (Hymenoptera: Apoidea: Anthophila). Available from: http://westpalbees.myspecies.info (accessed 31 January 2024)
Kuhlmann, M., Dathe, H.H., Ebmer, A. W., Hartmann, P., Michez, D., Müller, A., Patiny, S., Pauly, A., Praz, C., Rasmont, P., Risch, S., Scheuchl, E., Schwarz, M., Terzo, M., Williams, P.H., Amiet, F., Baldock, D., Berg, Ø., Bogusch, P., Calabuig, I., Cederberg, B., Gogala, A., Gusenleitner, F., Józan, Z., Madsen, H.B., Nilsson, A., Ødegaard, F., Ortiz-Sanchez, F.J., Paukkunen, J., Pawlikowski, T., Quaranta, M., Roberts, S.P.M., Sáropataki, M., Schwenninger, H.-R., Smit, J., Söderman, G. & Tomozei, B. (2022) Checklist of the Western Palaearctic Bees (Hymenoptera: Apoidea: Anthophila). Available from: http://westpalbees.myspecies.info (accessed 27 February 2025)
Le Divelec, R. (2022) A taxonomic account on the *Hylaeus gibbus* species-group (Hymenoptera: Apoidea: Colletidae). *Annales de la Société entomologique de France*, 58 (3), 229–249.
https://doi.org/10.1080/00379271.2022.2085627
Le Divelec, R. (2024) Four new species of Megachilidae from Corsica and Sardinia (Hymenoptera: Apoidea). *Annales de la Société entomologique de France*, 60, 601–624.
https://doi.org/10.1080/00379271.2024.2419083
Lhomme, P. (2019) A very rare bee species, *Schmiedeknechtia oraniensis*, spotted for the first time in Morocco. IKI Project, ICARDA CGIAR, Rabat, Morocco. Available from: https://mel.cgiar.org/projects/iki-pollinators/173/a-very-rare-bee-species-schmiedeknechtia-oraniensis-spotted-for-the-first-time-in-morocco (accessed 1 April 2025)
Lhomme, P., Michez, D., Christmann, S., Scheuchl, E., El Abdouni, I., Hamroud, L., Ihsane, O., Sentil, A., Smaili, M.C., Schwarz, M., Dathe, H.H., Straka, J., Pauly, A., Schmid-Egger, C., Patiny, S., Terzo, M., Muller, A., Praz, C., Risch, S., Kasparek, M., Kuhlmann, M., Bogusch, P., Ascher, J.S. & Rasmont, P. (2020) The wild bees (Hymenoptera: Apoidea) of Morocco. *Zootaxa*, 4892 (1), 1–159.
https://doi.org/10.11646/zootaxa.4892.1.1
Lieftinck, M.A. (1968) A review of Old World species of *Thyreus* Panzer (=*Crocisa* Jurine) (Hymenoptera, Apoidea, Anthophoridae). Part 4. Palearctic species. *Zoologische Verhandelingen*, 98, 1–139.
Lieftick, M.A. (1958) A preliminary account of the bees of the Canary Islands (Hym., Apoidea). *Commentationes Biologicae*, 18 (5), 1–34.
Maharramov, M.M., Fateryga, A.V. & Proshchalykin, M.Y. (2023) New records of megachilid bees (Hymenoptera: Megachilidae) from the Nakhchivan Autonomous Republic of Azerbaijan. *Far Eastern Entomologist*, 472, 18–24.
https://doi.org/10.25221/fee.472.2
Matias, D.M.S., Leventon, J., Rau, A.-L., Borgemeister, C. & von Wehrden, H. (2017) A review of ecosystem service benefits from wild bees across social contexts. *Ambio*, 46, 456–467.
https://doi.org/10.1007/s13280-016-0844-z
Midgley, G.F., Hannah, L., Millar, D., Rutherford, M.C. & Powrie, L.W. (2002) Assessing the vulnerability of species richness to anthropogenic climate change in a biodiversity hotspot. *Global Ecology and Biogeography*, 11 (6), 445–451.
https://doi.org/10.1046/j.1466-822X.2002.00307.x
Ministry of Agriculture (2024) Filière Apicole. Available from: https://www.agriculture.gov.ma/fr/filiere/apicole (accessed 12 December 2024)
Ministry of Agriculture (2025) Colloque scientifique sur “le syndrome d’effondrement des colonies d’abeilles”. Available from: https://iav.ac.ma/fr/colloque_apiculture (accessed 12 January 2025)

Morice, F.D. (1916) List of some Hymenoptera from Algeria and the M'Zab country. *Noviates Zoologicae*, 23, 241–246.
Müller, A. (2012) New European bee species of the tribe Osmiini (Hymenoptera: Apoidea: Megachilidae). *Zootaxa*, 3355 (1), 29–50.
https://doi.org/10.11646/zootaxa.3355.1.2
Müller, A. (2022a) New Moroccan bee species of the tribe Osmiini (Hymenoptera: Apoidea: Megachilidae). *Zootaxa*, 5188 (3), 233–263.
https://doi.org/10.11646/zootaxa.5188.3.2
Müller, A. (2022b) Palaearctic Osmia bees of the subgenera *Allosmia* and *Neosmia* (Megachilidae, Osmiini): biology, taxonomy and key to species. *Zootaxa*, 5188 (3), 201–232.
https://doi.org/10.11646/zootaxa.5188.3.1
Müller, A. (2024) Palaearctic Osmiine Bees. Available from: http://blogs.ethz.ch/osmiini (accessed 31 January 2025)
Müller, A. & Wood, T. (2025) Still undescribed bees in Europe - description of nine new European osmiine bee species (Hymenoptera, Megachilidae). *Zootaxa*, 5631 (1), 83–102.
https://doi.org/10.11646/zootaxa.5631.1.3
Nieto, A., Roberts, S.P.M., Kemp, J., Rasmont, P., Kuhlmann, M., García Criado, M., Biesmeijer, J.C., Bogusch, P., Dathe, H.H., De la Rúa, P., De Meulemeester, T., Dehon, M., Dewulf, A., Ortiz-Sánchez, F. J., Lhomme, P., Pauly, A., Potts, S.G., Praz, C., Quaranta, M., Radchenko, V.G., Scheuchl, E., Smit, J., Straka, J., Terzo, M., Tomozii, B., Window, J. & Michez, D. (2014) *European Red List of Bees*. Publication Office of the European Union, Luxembourg, 84 pp.
https://doi.org/10.2779/77003
Pauly, A. (2016). Atlas of the European Bees: genus *Lasioglossum*. STeP Project, Atlas hymenoptera, Mons, Gembloux. Available from: http://www.atlashymenoptera.net/page.aspx??ID=95 (accessed 31 January 2025)
Pesenko, Y.A. (2004) The phylogeny and classification of the tribe Halictini, with special reference to the *Halictus* genus group (Hymenoptera: Halictidae). *Zoosystematica Rossica*, 13 (1), 83–113.
https://doi.org/10.31610/zsr/2004.13.1.83
Potts, S.G., Imperatriz-Fonseca, V., Ngo, H.T., Aizen, M.A., Biesmeijer, J.C., Breeze, T.D., Dicks, L.V., Garibaldi, L.A., Hill, R., Settele, J. & Vanbergen, A.J. (2016) Safeguarding pollinators and their values to human well-being. *Nature*, 540, 220–229.
https://doi.org/10.1038/nature20588
Praz, C.J. & Bénon, D. (2023) Revision of the *leachella* group of *Megachile* subgenus *Eutricharaea* in the Western Palaearctic (Hymenoptera, Apoidea, Megachilidae): A renewed plea for DNA barcoding type material. *Journal of Hymenoptera Research*, 95, 143–198.
https://doi.org/10.3897/jhr.95.96796
Praz, C.J., Genoud, D., Vaucher, K., Bénon, D., Monks, J. & Wood T.J. (2022) Unexpected levels of cryptic diversity in European bees of the genus *Andrena* subgenus *Taeniandrena* (Hymenoptera, Andrenidae): implications for conservation. *Journal of Hymenoptera Research*, 91, 375–428.
https://doi.org/10.3897/jhr.91.82761
Priesner, H. (1957) A review of the *Anthophora* species of Egypt. *Bulletin de la Société Entomologique d'Égypte*, 41, 1–115.
Radchenko, V., Ghisbain, G. & Michez, D. (2022) A new bee species of the genus *Dasypoda* Latreille (Hymenoptera, Apoidea) from Northwest Africa with comparative remarks on the subgenus *Microdasypoda* Michez. *Zootaxa*, 5188 (1), 74–86.
https://doi.org/10.11646/zootaxa.5188.1.4
Rankou, H., Culham, A., Jury, S.L. & Christenhusz, M.J.M. (2013) The endemic flora of Morocco. *Phytotaxa*, 78 (1), 1–69.
https://doi.org/10.11646/phytotaxa.78.1.1
Rasmont, P. & Wood, T.J. (2024) An enigmatic Anthophorine bee from the south of France revealed as a new species: *Anthophora* (*Paramegilla*) *ahlamae* n. sp. (Hymenoptera:Apidae). *Annales de la Société entomologique de France*, 60 (2), 151–165.
https://doi.org/10.1080/00379271.2024.2325688
Rasmont, P. (2014) Atlas of the European Bees: genus *Anthophora*. STeP Project, Atlas hymenoptera, Mons, Gembloux. Available from: http://www.atlashymenoptera.net/default.aspx (accessed 31 January 2025)
Reverté, S., Miličić, M., Ačanski, J., Andrić, A., Aracil, A., Aubert, M., Balzan, M.V., Bartomeus, I., Bogusch, P., Bosch, J., Budrys, E., Cantú-Salazar, L., Castro, S., Cornalba, M., Demeter, I., Devalez, J., Dorchin, A., Dufrêne, E., Đorđević, A., Fisler, L., Fitzpatrick, Ú., Flaminio, S., Földesi, R., Gaspar, H., Genoud, D., Geslin, B., Ghisbain, G., Gilbert, F., Gogala, A., Grković, A., Heimburg, H., Herrera-Mesías, F., Jacobs, M., Janković Milosavljević, M., Janssen, K., Jensen, J.K., Ješovnik, A., Józan, Z., Karlis, G., Kasparek, M., Kovács-Hostyánszki, A., Kuhlmann, M., Le Divelec, R., Leclercq, N., Likov, L., Litman, J., Ljubomirov, T., Madsen, H.B., Marshall, L., Mazánek, L., Milić, D., Mignot, M., Mudri-Stojnić, S., Müller, A., Nedeljković, Z., Nikolić, P., Ødegaard, F., Patiny, S., Paukkunen, J., Pennards, G., Pérez-Bañón, C., Perrard, A., Petanidou, T., Pettersson, L.B., Popov, G., Popov, S., Praz, C., Prokhorov, A., Quaranta, M., Radchenko, V.G., Radenković, S., Rasmont, P., Rasmussen, C., Reemer, M., Ricarte, A., Risch, S., Roberts, S.P.M., Rojo, S., Ropars, L., Rosa, P., Ruiz, C., Sentil, A., Shparyk, V., Smit, J., Sommaggio, D., Soon, V., Ssymank, A., Ståhls, G., Stavrinides, M., Straka, J., Tarlap, P., Terzo, M., Tomozii, B., Tot, T., van der Ent, L.J., van Steenis, J., van Steenis, W., Varnava, A.I., Vereecken, N.J., Veselić, S., Vesnić, A., Weigand, A., Wisniowski, B., Wood, T.J., Zimmermann, D., Michez, D. & Vujić A. (2023) National records of 3000 European bee and hoverfly species: A contribution to pollinator conservation. *Insect Conservation and Diversity*, 16, 758–775.

https://doi.org/10.1111/icad.12680
Samih, A., Trocoli, S., Rohi, L., Fougrach, H., Hsaine, M. & Maatouf, N. (2024) Comparative study of the diversity and structure of plant-pollinator interactions in forest and agricultural landscapes in Northwestern Morocco. *European Journal of Entomology*, 121, 400–412.
https://doi.org/10.14411/eje.2024.044
Saunders, E. (1908a) Hymenoptera Aculeata collected in Algeria by the Rev. A. E. Eaton, M.A., F.E.S., and the Rev. Francis David Morice, M.A., F.E.S. Part III. Anthophila. *Transactions of the Entomological Society of London*, 56 (2), 177–274.
https://doi.org/10.1111/j.1365-2311.1908.tb02145.x
Saunders, E. (1908b) Errata. Transactions. Hymenoptera Aculeata, collected in Algeria. *Transactions of the Entomological Society of London*, 56 (1), xxxix.
https://doi.org/10.1111/j.1365-2311.1908.tb02134.x
Scheuchl, E. & Gusenleitner, F. (2007) Zwei neue *Andrena*-Arten aus den Vereinigten Arabischen Emiraten (Hymenoptera, Apidae). *Linzer biologische Beiträge*, 39, 543–552.
Scheuchl, E. & Willner, W. (2016) *Taschenlexikon der Wildbienen Mitteleuropas*. Quelle & Meyer, Wiebelsheim, 917 pp.
Schulthess, A. (1924) Contribution à la connaissance da la faune des Hyménoptères de l'Afrique du Nord. *Bulletin de la Société d'Histoire Naturelle de l'Afrique du Nord*, 15, 293–320.
Schwarz, M. (1976) Ergebnisse der Untersuchungen der von J. Perez 1902 'In Proc. Verb. Soc. Bord. 57' beschriebenen *Nomada*-Arten. *Nachrichtenblatt der Bayerischen Entomologen*, 21, 101–109.
Schwarz, M. (1993) Eine neue *Thyreus*-Art von der Kanarischen Inseln: *Thyreus hohmani* n. sp. (Insecta: Hymenoptera: Apoidea: Anthophoridae). *Veröffentlichungen aus dem Übersee-Museum Bremen*, 12, 869–873.
Schwarz, M. & Gusenleitner F. (2003) Ergebnis der Untersuchung einiger von Spinola beschriebener Apiden mit Bemerkungen und Ergänzungen (Hymenoptera: Apidae). *Entomofauna*, 24 (17), 237–280.
Schwarz, M., Gusenleitner, F., Westrich, P. & Dathe, H.H. (1996) Katalog der Bienen Österreichs, Deutschlands und der Schweiz (Hymenoptera, Apidae). *Entomofauna*, supplement, 8: 1–398.
https://doi.org/10.1002/mmnd.19970440109
Schwarz, M. & Smit, J. (2018) Neue paläarktische wespenbienen der Gattung *Nomada* Scopoli, 1770 (Hymenoptera, Apidae). *Entomofauna*, 39, 881–908.
Sentil, A., Lhomme, P., Michez, D., Reverté, S., Rasmont, P. & Christmann, S. (2021) "Farming with Alternative Pollinators" approach increases pollinator abundance and diversity in faba bean fields. *Journal of Insect Conservation*, 26, 401–414.
https://doi.org/10.1007/s10841-021-00351-6
Sentil, A., Lhomme, P., Revert, S., El Abdouni, I., Hamroud, L., Ihsane, O., Bencharki, Y., Rollin, O., Rasmont, P., Chrif, M., Michez, D., Ssymank, A. & Christmann, S. (2024b) The pollinator conservation approach " Farming with Alternative Pollinators " : Success and drivers. *Agriculture, Ecosystems and Environment*, 369, 109029.
https://doi.org/10.1016/j.agee.2024.109029
Sentil, A., Reverté, S., Lhomme, P., Bencharki, Y., Rasmont, P., Christmann, S. & Michez, D. (2022b) Wild vegetation and 'Farming with Alternative Pollinators' approach support pollinator diversity in farmland. J*ournal of Applied Entomology*, 146 (9), 1155–1168.
https://doi.org/10.1111/jen.13060
Sentil, A., Rosa, P., Tourbez, C. & Dorchin, A. (2024a) New records of bees (Hymenoptera, Apoidea) from Morocco. *Journal of Hymenoptera Research*, 530, 513–530.
https://doi.org/10.3897/jhr.97.125408
Sentil, A., Wood, T. J., Lhomme, P., Hamroud, L., El Abdouni, I., Ihsane, O., Bencharki, Y., Rasmont, P., Christmann, S. & Michez, D. (2022a) Impact of the "Farming With Alternative Pollinators" approach on crop pollinator pollen diet. *Frontiers in Ecology and Evolution*, 10, 824474.
https://doi.org/10.3389/fevo.2022.824474
Skaou A., Aglagane, A., Er-Rguibi, O., Benkhalifa, H., Sentil, A., Lhomme, P., Michez, D. & El Mouden, E.H. (2025) New regional species records for the Moroccan bee fauna (Hymenoptera, Apoidea), with a special focus on the Marrakesh-Safi region. *Insects*, 16, 873.
https://doi.org/10.3390/insects16090873
Smit, J. (2018) Identification key to the European species of the bee genus *Nomada* Scopoli, 1770 (Hymenoptera: Apidae), including 23 new species. *Entomofauna*, *Monographie*, 3, 1–253.
Smith, F. (1854) n.k. *Par*t *II. Apidae. In: Catalogue of hymenopterous insects in the collection of the British Museum*. of the British Museum, London, pp. 199–465.
Straka, J., Le Divelec, R., Lugo, D., Ruíz Carreira, C. & Bogusch, P. (2025) Taxonomic review of the genus *Sphecodes* (Hymenoptera: Anthophila: Halictidae) of Europe. *Zookeys*. [in review]
Tkalců, B. (1984) Systematisches Verzeichnis der westpaläarktischen *Tetralonia*- und *Eucera*-Arten, deren Männchen als Blütenbesucher verschiedener *Ophrys*-Arten festgestellt wurden. Mit Beschreibung neuer Taxa (Hymenoptera: Apoidea). *Nova Acta Regiae Societatis Scientarum Upsaliensis*, 3, 57–77.
Ungricht, S., Müller, A. & Dorn, S. (2008) A taxonomic catalogue of the Palaearctic bees of the tribe Osmiini (Hymenoptera: Apoidea: Megachilidae). *Zootaxa*, 1865 (1), 1–253.
https://doi.org/10.11646/zootaxa.1865.1.1

Warncke, K. (1967) Beitrag zur Klärung paläarktischer *Andrena*-Arten (Hymenoptera, Apidae). *Eos*, 43, 171–318.
Warncke, K. (1972) Westpaläarktische Bienen der Unterfamilie Panurginae (Hym., Apidae). *Polskie Pismo Entomolgiczne*, 52, 53–108.
Warncke, K. (1974) Beitrag zur Kenntnis und Verbreitung der Sandbienen in Nordafrika (Hymenoptera, Apoidea, Andrena). *Mitteilungen des Zoologischen Museums Berlin*, 50, 3–53
Warncke, K. (1977) Systematik der westpaläarkticher Bienengattung *Dioxys*. *Reichenbachia*, 16, 265–282.
Warncke, K. (1980) Die Bienengattung *Anthidium* Fabricius, 1804 in der Westpaläarktis und im turkestanischen Becken. *Entomofauna*, 1, 119–209.
Warncke, K. (1991) Die Bienengattung *Osmia* Panzer, 1806, ihre Systematik in der Westpaläarktis und ihre Verbreitung in der Türkei. 10. Die Untergattung *Alcidamea* Cress. *Linzer biologische Beiträge*, 23, 701–751.
Warncke, K. (1992) Die westpaläarktischen Arten der Bienengattung *Sphecodes* Latr. (Hymenoptera, Apidea, Halictinae). *Bericht der Naturforschenden Gesellschaft Augsburg*, 52, 9–64.
Wood, T.J. (2021) Fifteen new *Andrena* species from little-visited arid, Mediterranean, and mountainous parts of the Old World (Hymenoptera: Andrenidae). *Zootaxa*, 4933 (4), 451–492.
https://doi.org/10.11646/zootaxa.4933.4.1
Wood, T.J. (2023a) Revisions to the *Andrena* fauna of north-western Africa with a focus on Morocco (Hymenoptera: Andrenidae). *European Journal of Taxonomy*, 916, 1–85.
https://doi.org/10.5852/ejt.2023.916.2381
Wood, T.J. (2023b). The genus *Andrena* in the Iberian Peninsula: revisionary taxonomy, ecology, new species, and a key to their identification (Hymenoptera: Andrenidae). *Journal of Hymenoptera Research*, 96, 241–484.
https://doi.org/10.3897/jhr.96.101873
Wood, T.J. (2023c) Bee species newly recorded for the Moroccan fauna, including two new species of *Ammobatoides* and *Thyreus* (Hymenoptera: Anthophila). *Annales de la Société entomologique de France*, 59, 177–203.
https://doi.org/10.1080/00379271.2023.2215216
Wood, T.J. (2024) Further revisions to the Palaearctic *Andrena* fauna (Hymenoptera: Andrenidae). *Zootaxa*, 5483 (1), 1–150.
https://doi.org/10.11646/zootaxa.5483.1.1
Wood, T.J. (2025a) Additions, corrections, and other changes to the hyper-diverse bee genus *Andrena* Fabricius, 1775 (Hymenoptera: Andrenidae). *Animal Taxonomy and Ecology,* 71 (2), 143–316.
https://doi.org/10.1556/1777.2025.00082
Wood, T.J. (2025b) Resolving issues in the genus *Dioxys* (Hymenoptera, Megachilidae, Dioxyini) in the West Palaearctic with a new identification key. *ZooKeys*, 1226, 261–302.
https://doi.org/10.3897/zookeys.1226.138377
Wood, T. J. & Le Divelec, R. (2022) Cryptic Diversity Revealed in A Revision of West Palaearctic *Nomiapis* and *Systropha* (Hymenoptera: Halictidae). *Diversity*, 14 (11).
https://doi.org/10.3390/d14110920
Wood, T.J., Gaspar, H., Le Divelec, R., Penado, A., Silva, T.L., Mata, V.A., Veríssimo, J., Michez, D., Castro, S., Loureiro, J., Beja, P. & Ferreira, S. (2024) The InBIO Barcoding Initiative Database: DNA barcodes of Iberian Bees. *Biodiversity Data Journal*, 12, e117172.
https://doi.org/10.3897/BDJ.12.e117172
Wood, T.J., Ghisbain, G., Michez, D. & Praz, C.J. (2021) Revisions to the faunas of *Andrena* of the Iberian Peninsula and Morocco with the descriptions of four new species (Hymenoptera: Andrenidae). *European Journal of Taxonomy*, 758, 147–193.
https://doi.org/10.5852/EJT.2021.758.1431
Wood, T.J., Michez, D., Cejas, D., Lhomme, P. & Rasmont, P. (2020) An update and revision of the *Andrena* fauna of Morocco (Hymenoptera, Apoidea, Andrenidae) with the description of eleven new north African species. *ZooKeys*, 974, 31–92.
https://doi.org/10.3897/zookeys.974.54794
Wood, T.J. & Monfared, A. (2022) A revision of the *Andrena* (Hymenoptera: Andrenidae) fauna of Iran, with the description of 16 new species. *European Journal of Taxonomy*, 843, 1–136.
https://doi.org/10.5852/ejt.2022.843.1947
Wood, T.J. & Ortiz-Sánchez, F.J. (2022) Description of three new *Andrena* Fabricius, 1775 species from understudied parts of Iberia (Hymenoptera: Andrenidae). *Boletín de la Sociedad Entomológica Aragonesa*, 70, 114–123.
Zanden, G. van der (1986) Die paläarktischen Arten der Gattung *Lithurgus* Latreille, 1825 (Hymenoptera, Apoidea, Megachilidae). *Mitteilungen aus dem Museum für Naturkunde in Berlin*, 62, 53–59.
https://doi.org/10.1002/mmnz.19860620105
Zanden, G. van der (1988) Nomenklatorische und taxonomische Bemerkungen zu einigen paläarktischen Arten der Familie Megachilidae (Insecta, Hymenoptera, Apoidea: Megachilidae). *Reichenbachia*, 26, 55–64
Zanden, G. van der (1996) Neue Arten und Synonyme bei paläarktischen Bauchsammlern (Hymenoptera aculeata, Apoidea, Megachilidae). *Linzer biologische Beiträge*, 28, 883–895.
Zanden, G. van der (1998) Neue Funde einiger wenig bekannter paläarktischer Bienen-Arten (Insecta, Hymenoptera, Apoidea). *Linzer biologische Beiträge*, 30, 529–531.